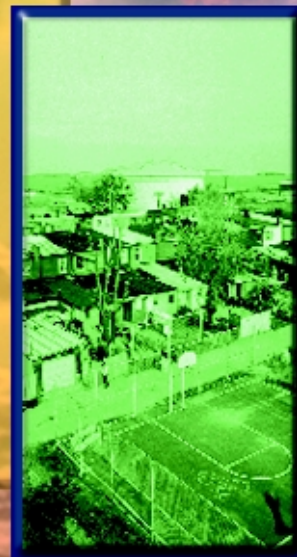
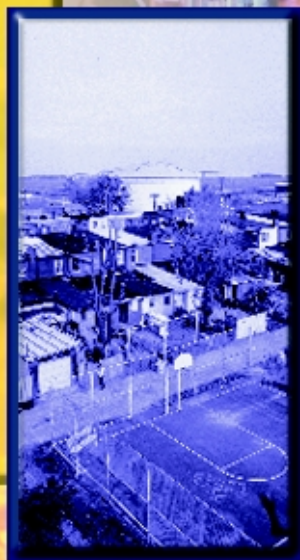
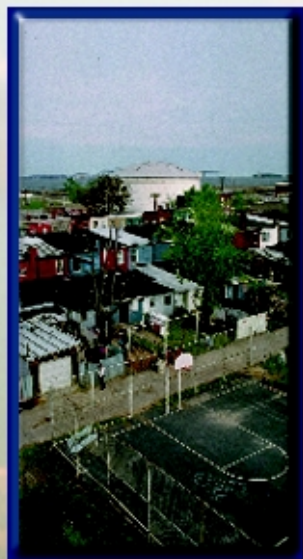




# Office of Pollution Prevention and Toxics

*Program Activities for  
Fiscal Years 1998 and 1999*



## *Credits*

Cover inset and chapter head photos by Steve Delaney

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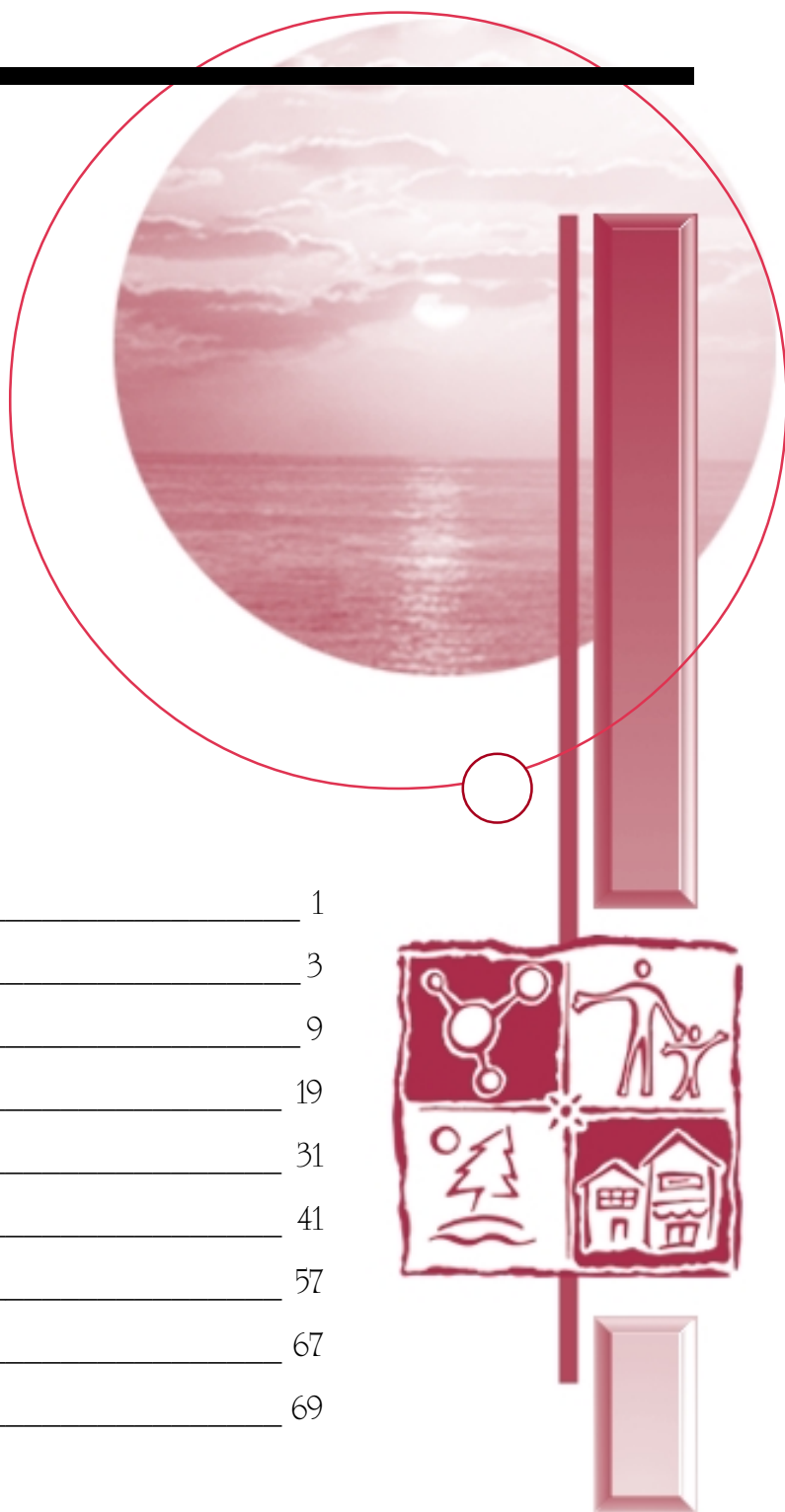
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# To Our Stakeholders

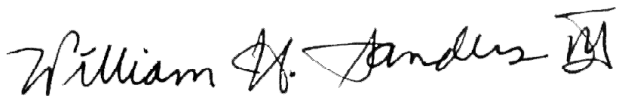
Earth Day is important every year, but I will remember the Earth Day of 1998 as one of special significance to the Office of Pollution Prevention and Toxics (OPPT), for it was on April 21, 1998 — Earth Day eve — that Vice President Gore announced the **Chemical Right-to-Know Initiative**. ChemRTK, as we have come to call it, is a groundbreaking program that strongly links two major themes driving OPPT's efforts: identification and protection from chemical hazards and a firm commitment to the public's right-to-know. It is not often that I use the word "revolutionary," but it truly seems that ChemRTK is a revolution in the making.

ChemRTK is both a program and a strategy. The programmatic aspects are described in this report, along with OPPT's other key program areas — the lead program, pollution prevention, new chemicals review, and the many other activities under the OPPT umbrella. As a strategy, though, ChemRTK is likely to impact virtually all that OPPT does in the coming years as we incorporate its central themes throughout OPPT: building partnerships; empowering the public with information and tools; setting clear priorities; moving quickly, efficiently, and responsively to environmental concerns; and seeking innovative means to achieve our nation's environmental goals.

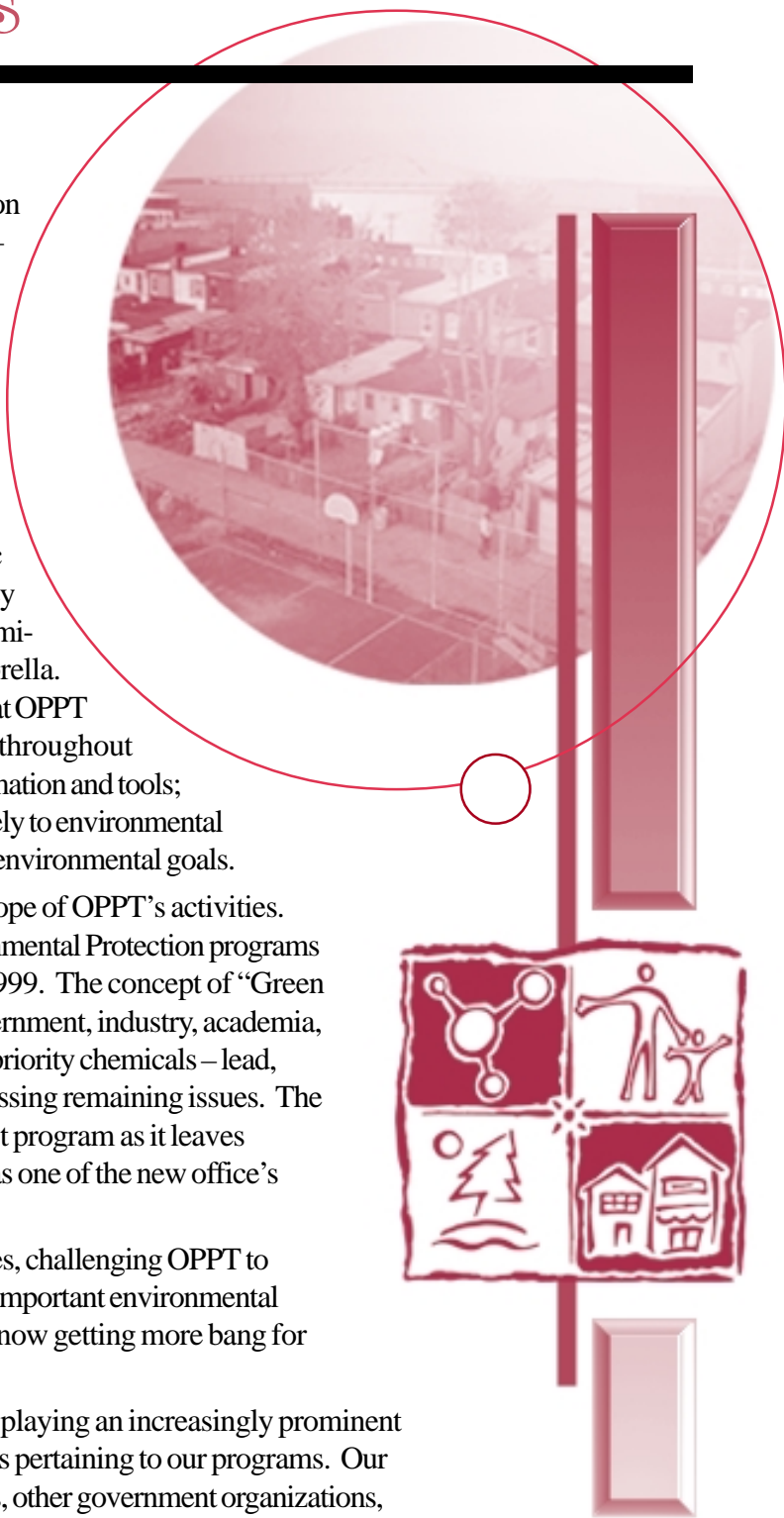
These new directions are just a part of the rapidly expanding scope of OPPT's activities. The Design for the Environment and Community Based Environmental Protection programs explored substantial new areas during Fiscal Years 1998 and 1999. The concept of "Green Chemistry" pioneered by OPPT is taking on new weight in government, industry, academia, and the international community. Our traditional focus on high-priority chemicals — lead, asbestos, PCBs — continually generates new strategies for addressing remaining issues. The Toxics Release Inventory is a more comprehensive, more robust program as it leaves OPPT to join EPA's new Office of Environmental Information as one of the new office's flagship programs.

All these efforts are undertaken in an era of diminishing resources, challenging OPPT to greater efficiencies in spending scarce federal dollars to achieve important environmental goals. I believe we have been successful in this regard, and are now getting more bang for the taxpayer buck than ever before.

A good deal of that success is owed to the stakeholders who are playing an increasingly prominent role in working directly with OPPT to identify and resolve issues pertaining to our programs. Our communications with industry, public interest groups, academics, other government organizations, and with the public at large have been invaluable. I look forward to strengthening these partnerships in the years ahead as we embark on many exciting new paths to environmental protection.



William H. Sanders III, Dr. P.H., P.E.  
Director, Office of Pollution Prevention and Toxics





# Introduction

The Environmental Protection Agency's Office of Pollution Prevention and Toxics (OPPT) is pleased to present this review of our activities for Fiscal Years 1998 and 1999 (FY 1998-99). Through a broad range of programs—from traditional regulatory actions to voluntary testing programs and stakeholder partnerships—OPPT has demonstrated the creativity and energy needed to improve our understanding and to further reduce the risks from toxic chemicals in the environment. The goal of this report is to share what we have learned with the public and to invite active participation in our ongoing and planned programs.

The four components of OPPT's mission statement guide all of our programs:

OPPT actively ***promotes the use of safer chemicals*** and processes in all the basic operations of the industrial sector through a combination of regulatory and voluntary efforts.

Large amounts of toxic chemicals such as lead, asbestos, dioxin, and polychlorinated biphenyls (PCBs) are already present in the environment from past activities. OPPT ***promotes reduction of risk*** from these chemicals by implementing aggressive programs to minimize exposure to these highly toxic substances.

OPPT works to provide understandable, accessible, and complete information on chemical risks to the broadest audience possible. By ***promoting public understanding***, OPPT supports better public decisions about how to protect human health and the environment.

The Pollution Prevention Act of 1990 made pollution prevention a national environmental policy. OPPT ***promotes pollution prevention*** as an alternative to end-of-pipe controls through nonregulatory programs and activities to reduce or eliminate waste at the source.

## Program Highlights for Fiscal Years 1998 and 1999

OPPT's program, highlighted here and more fully described in the following report, includes traditional regulatory approaches and new voluntary and stakeholder-based approaches for implementing the Toxic Substances Control Act (TSCA) and reducing risks from exposure to toxic chemicals.

## High Production Volume Challenge Program

A prime example of a new approach to implementing TSCA is the Chemical Right-to-Know Initiative (ChemRTK). On the eve of Earth Day 1998, Vice President Gore called upon EPA and industry to address immediately the massive gap of information on industrial chemicals. OPPT's "Chemical Hazard Data Availability Study" revealed that *fewer than 7%* of the 2,800 high production volume (HPV) chemicals have a full set of baseline testing data publicly available, and almost half the chemicals have no data publicly available. The full study can be found on OPPT's home page at [www.epa.gov/opptintr/chemtest](http://www.epa.gov/opptintr/chemtest).



The ChemRTK Initiative is being implemented by a combination of voluntary and regulatory programs. A major component of the initiative, the HPV Challenge Program, encourages industry to voluntarily sponsor chemicals to provide data. To address chemicals not sponsored by industry, OPPT expects to propose rules that seek basic screening-level data on specific chemicals. At the core of ChemRTK is a commitment to making data available to the public in a form that is easy to access, use, and understand. By November 1999, over 230 companies and 62 consortia had committed to sponsor over 3,000 chemicals in the HPV Challenge Program. (See pages 9-10 for more information on this and other components of the ChemRTK Initiative.)

## Toxics Release Inventory

EPA's Toxics Release Inventory (TRI) data report for 1996 demonstrated a continued decline since 1988 of total releases of some 600 chemicals that industry is required to report under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). The 1997 data report showed an increase of 56.1 pounds from 1996 because of a number of facilities shifting from recycling to disposal of metals. With approximately 6,100 facilities in seven additional industries to begin TRI reporting as a result of EPA's 1997 final rule, OPPT has developed guidance and conducted 20 training sessions for the new industries on how to comply with their reporting obligations.

As part of the ChemRTK Initiative, OPPT has developed proposed rules to modify and expand current TRI reporting requirements for lead and persistent, bioaccumulative toxic (PBT) chemicals. (See also the PBT Initiative in the Risk Reduction chapter.) These proposed rules are intended to lower the TRI reporting thresholds for lead and PBT chemicals and to add certain other PBT chemicals to the Section 313 list of toxic chemicals. (See pages 34-35.)

## Endocrine Disruptors Screening Program

As a result of increased public and scientific attention to the potential effects of synthetic chemicals on the endocrine systems of people and wildlife, Congress mandated that EPA establish a program for screening chemicals for potential endocrine effects. EPA is in the process of implementing its program for testing pesticides and industrial chemicals for their potential to mimic or block estrogen, androgen, and thyroid hormones in people and wildlife. (See page 10.)

## PBT Initiative

Persistent, bioaccumulative toxic pollutants (PBTs) are highly toxic, long-lasting substances that can build up in the food chain to levels that are harmful to human and ecosystem health. OPPT contributed significantly to the Agency's *Draft Multimedia Strategy for Priority Persistent, Bioaccumulative and Toxic Pollutants* and the Great Lakes Binational Strategy for reducing or eliminating PBT chemicals from the region of the Great Lakes Basin. (See page 25.)

OPPT assisted with developing and implementing three workshops in FY 1998 under the Commission for Environmental Cooperation's *North American Regional Action Plan for Mercury (NARAP)*. The overall objective of the Mercury NARAP is to provide long-term directions for the United States, Canada, and Mexico to prevent or minimize man-made releases of mercury into the environment. (See page 27.)

OPPT published a Notice in the *Federal Register* that established a category of PBT chemicals to facilitate the assessment of new chemical substances under TSCA Section 5(e) prior to their entry into the marketplace. (See page 13.)



## PCB Disposal Amendments

Polychlorinated biphenyls (PCBs) are synthetic organic chemicals manufactured worldwide and used in thousands of products and processes where non-flammability, stability to heat, or effectiveness as a plasticizer are required. TSCA bans the manufacture, processing, distribution in commerce, and use of PCBs but provides for exceptions for some uses.

The PCB Disposal Amendments, promulgated in June 1998, represented the first comprehensive review and overhaul of the PCB regulatory program in 20 years. The rule, estimated to save the regulated communities approximately \$750 million annually, reduces the permitting burden and provides for flexibility in sampling, cleanup, storage, and disposal of certain PCB wastes. (See page 28.)

## Lead Program

### Rules

In support of the national lead-based paint hazard reduction efforts, OPPT proposed standards for identifying lead-based paint hazards and lead-contaminated dust and soil and developed two guidance documents for public comment.

The Pre-Renovation Information Rule, which went into effect June 1, 1999, requires that renovators distribute lead hazard information prior to starting renovation on housing built before 1978 that could disturb lead-based painted surfaces.

TSCA standards proposed in December 1998 allow lead-based paint debris to be managed and disposed of in a more consistent and less costly manner. (See page 21.)

### Outreach

OPPT's Lead Program awarded almost \$500,000 in community outreach grants to nine grantees across the country. *Lead in Your Home: A Parent's Reference Guide*, released in June 1998, provides comprehensive guidance for parents who want to protect their children from lead poisoning. OPPT's *Runs Better Unleaded* Campaign has reached communities across the country and won an award from a national public relations professional association. EPA's Region 2 produced a 30 minute video, *The Trouble with Lead*, and a public service message on lead hazards was screened in movie theatres in 57 cities during December 1998 and January 1999 for almost 46,000 viewers. (See pages 24 and 59.)

## Green Chemistry

OPPT awarded its 1998 Green Chemistry Challenge Awards to six recipients from industry and academia; including PYROCOOL, a fire extinguishing agent that put out a tanker fire within minutes rather than days. In FY1999, OPPT awarded five Challenge awards including one to Biofine, Inc. for designing a process that converts paper mill sludge and other waste products to a chemical that can be used in a number of other processes. Along with EPA's Office of Research and Development, OPPT awards annually between \$5 and \$7 million in grants through the Technology for a Sustainable Environment solicitation for the development of benign feedstocks, greener solvents and reaction conditions, safer chemical products, and analytical methods for preventing pollution. (See pages 15-16.)

## Biotechnology

In FY 1998, OPPT approved the first consolidated TSCA Experimental Release Application (TERA) submission for three microbial seed inoculants that have been altered to improve nodulation and nitrogen fixation in the roots of soybean plants.

The second consolidated TERA submission approved is for two microorganisms that emit light in the presence of trinitrotoluene (TNT). The microorganisms are intended for land applications that detect the presence of active land mines. (See page 14.)

## Pollution Prevention

During FY 1998-99, OPPT promoted pollution prevention through a number of activities, including the issuance of 44 new Environmental Justice Through Pollution Prevention grants; the demonstration of the utility of geographic information systems (GIS) by local health departments for use in zoning decisions, land-use planning, pollution prevention, and environmental compliance activities; and an agreement with the American Hospital Association (AHA) to work together to eliminate mercury waste generated by hospitals. In addition, the Office continued its progress on the Environmental Accounting Project (EAP), encouraging businesses to understand the full spectrum of their environmental costs and integrate those costs into the decision-making and capital-budgeting processes. In FY 1998-99, EAP published several key documents for industry and established a partnership with an accounting software company. (See the Pollution Prevention chapter.)

## Design for the Environment

In FY 1998-99, projects in OPPT's Design for the Environment (DfE) achieved several milestones: the Fabricare partnership developed the Cleaner Technologies Substitutes Assessment (CTSA) for Professional Fabricare Processes; the Computer Display Project, a voluntary partnership with the display industry, was launched; the Printed Wiring Board (PWB) Project participants completed a final Cleaner Technologies Substitutes Assessment for the "making holes conductive" step of the PWB manufacturing process; and the Industrial and Institutional Laundry Initiative signed a partnership agreement—its second in this sector—with Anderson Chemical Co. of Minnesota to improve the environmental profile of its laundry products and processes. (See pages 44-47.)

## Voluntary Standards

A number of private sector organizations develop voluntary standards for product and services performance. These standard setting groups can be domestic or international. One such group is the International Organization for Standardization (ISO). OPPT works with ISO to encourage and promote environmental concerns in the standard setting process. In FY 1998, OPPT drafted and coordinated the "EPA Position Statement on Environmental Management Systems and ISO 14001" and provided grants to the Pacific Institute to provide an analysis of ISO 14000 at the domestic and international levels from a socioeconomic perspective and to Georgia State University to develop a model of companies implementing ISO 14001 in the United States. (See page 48.)

## Pollution Prevention Incentives for States

The Pollution Prevention Incentives for States (PPIS) grant program, which fosters the creation of new prevention approaches by states and the development of cross-media state and tribal

pollution prevention programs, awarded approximately 59 grants totaling \$5.3 million from EPA's Regional offices. (See pages 51-52.)

## Environmentally Preferable Purchasing

In September 1998, Executive Order 13101, *Greening the Government through Waste Prevention, Recycling and Federal Acquisition*, was promulgated, reaffirming and strengthening the mandate for executive branch agencies to purchase environmentally preferable products and services and requiring EPA to finalize the 1995 proposed Guidance on environmentally preferable purchasing. In FY 1998, EPA and the Office of the Federal Environmental Executive issued a policy letter on how federal agencies can use the technical expertise of non-governmental entities / "Third Parties" to achieve the Administration's mandate of purchasing environmentally preferable goods and services. Final guidance on the executive order was signed by EPA's Administrator Browner in August 1999. (See page 52.)

## Program Management Accomplishments

### Strategic Planning

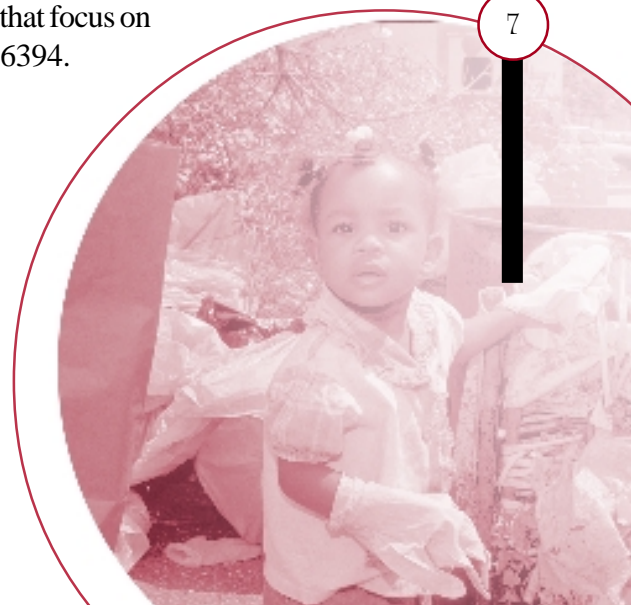
Under the Government Performance and Results Act (GPRA), federal departments and agencies are required to establish long-range strategic plans that include clear goals, objectives, strategies, and measures of program performance. OPPT is responding to this new focus by developing a better articulation of its mission and program objectives and explaining how these tie in to individual projects and activities.

In FY 1998, OPPT completed work on a draft Strategic Agenda for the Office covering the years 1999-2005. This document will help to address the kinds of issues and concerns reflected in GPRA. In addition, it will present the Office's long-range plans in a more detailed and comprehensive manner than is possible in the agencywide plan. OPPT has shared the draft Agenda with states and external stakeholders in hopes of encouraging dialogue on key elements of the plan. The Strategic Agenda is expected to be final by the end of FY 1999.

In addition to completing the Agenda, OPPT's planning activities in FY 1999 include participation in an agencywide effort to update the EPA Strategic Plan and working to refine the Office's mission and internal organization to reflect the shift of the TRI function to EPA's new Office of Environmental Information. OPPT's parent organization, the Office of Prevention, Pesticides and Toxic Substances (OPPTS), has entered into a cooperative agreement with Florida State University to develop a set of environmental indicators that could be helpful in future program measurement and assessment efforts for the toxics and pesticides programs. This project will involve considerable consultation with the various stakeholder communities that focus on OPPTS programs. For more information, contact Mike Burns, (202) 260-6394.

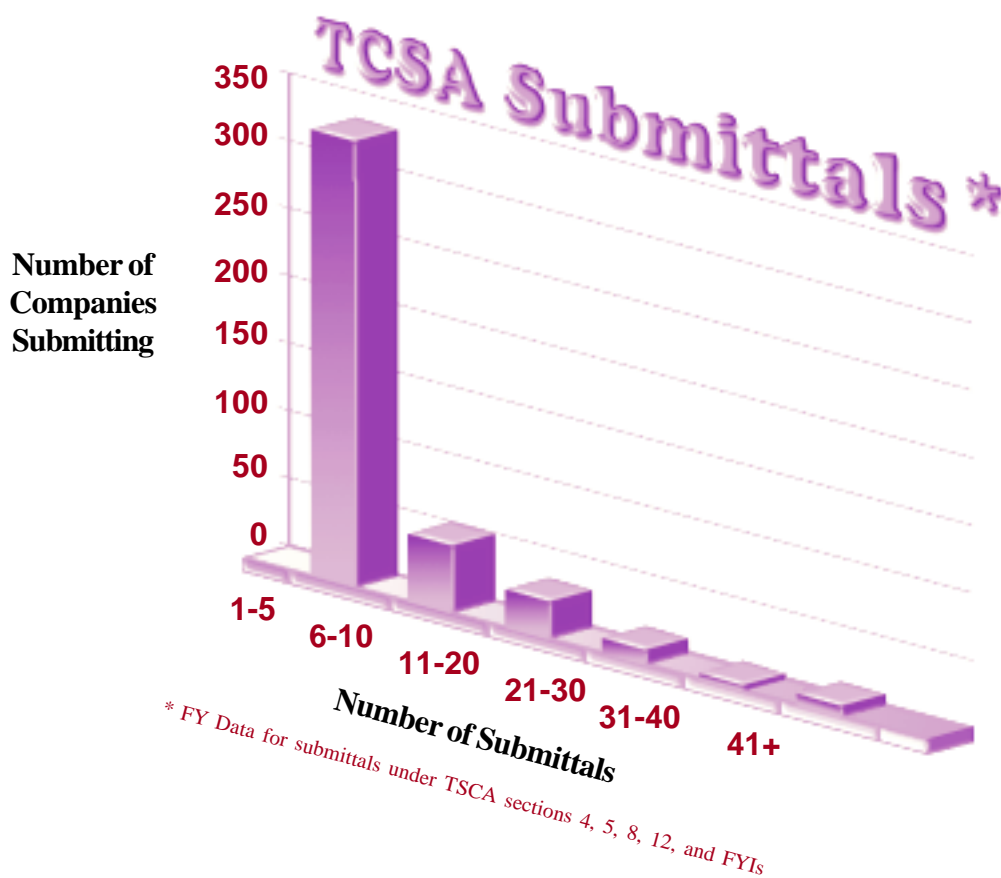
### Electronic Submission of TSCA Data

Every year, chemical manufacturers are required by TSCA regulation to submit a tremendous amount of data to EPA. Processing the data submissions manually — retyping the data into tracking systems, for example — is time consuming. In addition, when data are processed manually, there is a greater chance of introducing errors while retyping. In an effort to improve the accuracy of industry submission and save time and money, OPPT is piloting the use of information technology for submitting data electronically.



In September 1998, OPPT launched three pilot projects to test electronic submission of three forms for reporting data required by TSCA regulations: the Pre-manufacture Notice form; the Health and Safety Data form; and Export Notification (TSCA 12b). The pilots will use the latest in electronic security technology, called *digital signatures*, to certify the submissions. Digital signatures allow submitters to sign an entire document electronically by calculating a code based on all the bits of information contained in a document and combining it with a sender's unique ID.

OPPT's projects involving the transmission and subsequent dissemination of TSCA data will continue to rely heavily on the Internet to reach both industry reporters and the public in the future. However, other forms of electronic transmittal such as diskette or compact disc will also be available to users. For more information, contact John Nowlin, (202) 260-8918.



In FY 1998, the vast majority of companies submitted data required by TSCA to EPA less than five times. Consequently, any electronic submission system needs to be easy to use. OPPT's pilot projects will offer industry more streamlined and accurate reporting systems.



# Safer Chemicals

## Chemical Right-to-Know Initiative

On the eve of Earth Day 1998, Vice President Gore called upon EPA and industry to address the massive lack of publicly available information on the health and environmental effects of major industrial chemicals. OPPT's *Chemical Hazard Data Availability Study* had revealed that there are no publicly available baseline health and environmental effects data on almost half of the 2,800 U.S. High Production Volume (HPV) chemicals, and less than 7 percent have a full, public set of basic screening-level data. (A high production volume chemical is produced in or imported into the United States at 1 million pounds or more per year.) In response to the Vice President's request, and in partnership with industry and environmental groups, OPPT launched the Chemical Right-to-Know (ChemRTK) Initiative, which includes both voluntary and regulatory components. OPPT has created a website for complete ChemRTK Initiative project information at [www.epa.gov/chemrtk](http://www.epa.gov/chemrtk).

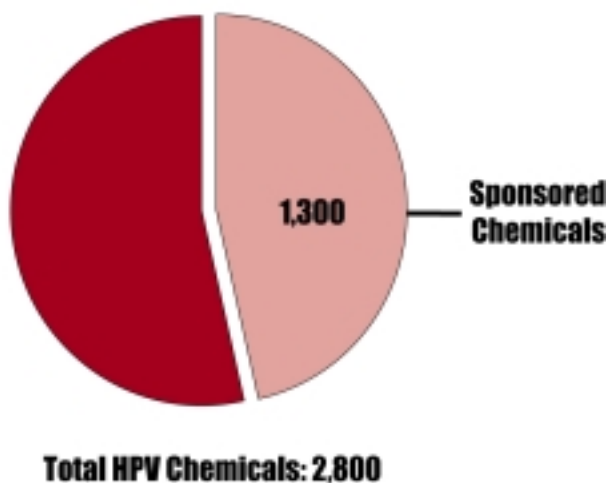
*OPPT actively promotes the use of safer chemicals and processes in all the basic operations of the industrial sector through a combination of regulatory and voluntary efforts.*

## High Production Volume Challenge Program and Test Rule

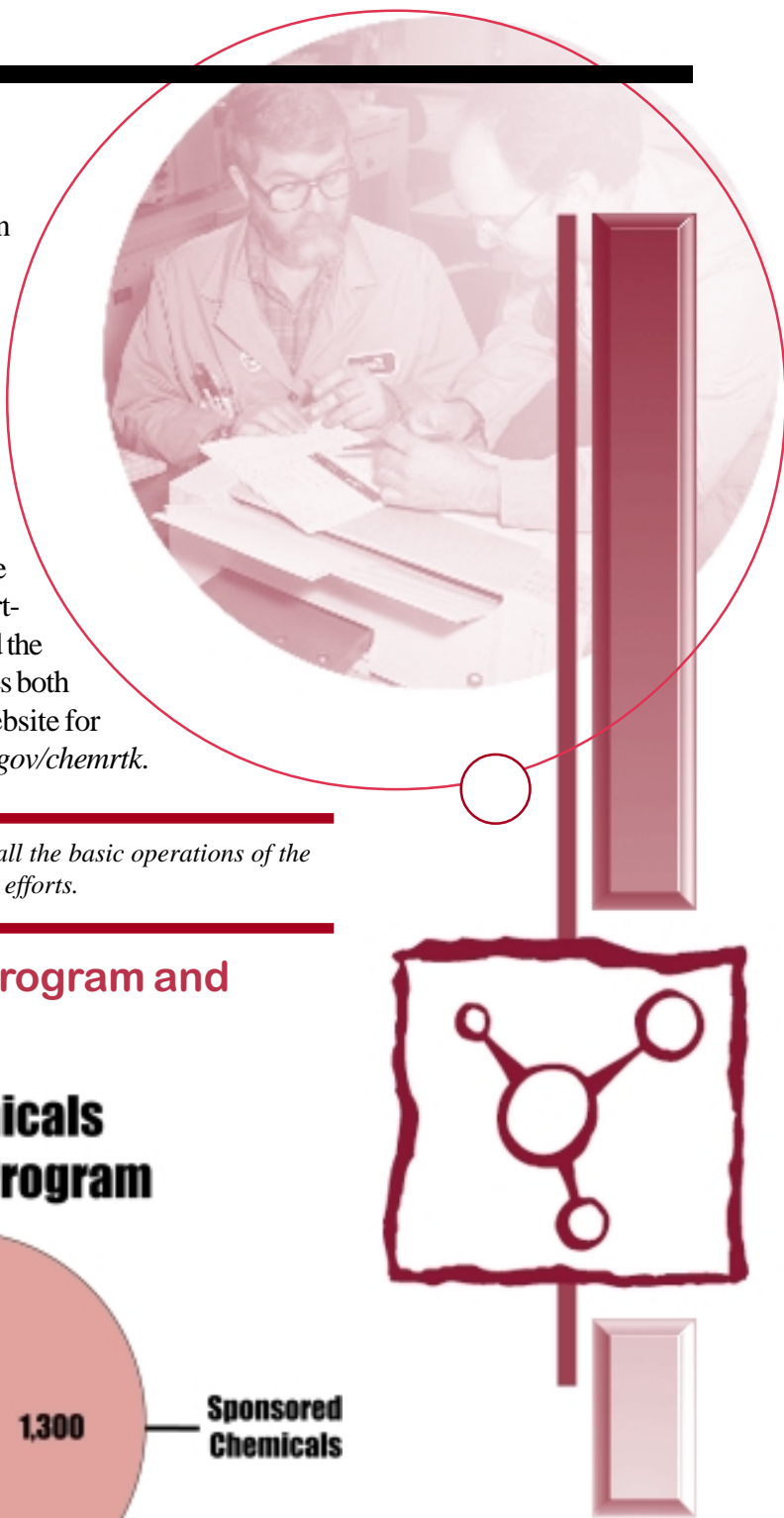
Two major components of OPPT's Chemical Right to Know Initiative (ChemRTK) are the HPV Challenge Program and the HPV Test Rule, which were announced by Vice President Gore in October 1998. EPA, in cooperation with the Chemical Manufacturers Association (with support from the American Petroleum Institute) and the Environmental Defense Fund, has invited members of the U.S. chemical industry to participate in the voluntary HPV Challenge Program to provide the public with basic toxicity and environmental fate data on the HPV chemicals they produce or import before the end of 2005.

Companies participating in the Challenge Program first identify and make public all relevant existing data

### HPV Chemicals Challenge Program



As of November 1999, EPA has received and processed commitments for over 1300 chemicals from more than 230 companies and 60 consortia.





on their HPV chemicals. Then they identify any data gaps that would need to be filled by new testing. No new testing will be done where adequate data already exist. Where new testing must be done, it will be consistent with the internationally recognized Screening Information Data Set (SIDS) program of the Organization for Economic Cooperation and Development (OECD), will incorporate procedures to reduce the number of test animals used, and employ validated non-animal test methods where appropriate.

To further address the concern about the lack of available information on HPV chemicals, EPA expects to publish a series of test rules under TSCA Section 4 that will seek basic screening-level data on specific HPV chemicals, the first of which is scheduled to be proposed in late FY 1999.

Beginning in FY 1998 and extending into FY 2000, OPPT will continue to sponsor a series of stakeholder meetings and public workshops on the HPV Challenge Program to address issues such as chemical categories, data adequacy and management, animal welfare, and public right-to-know and access to data. For more information on the HPV Challenge Program, see the website or contact Barbara Leczynski, (202) 260-1864. For more information on the HPV Test Rule, see the website or contact Keith Cronin, (202) 260-8157. (For information on a third component of the ChemRTK Initiative related to Toxics Release Inventory reporting, see pages 34-35.)

## Children's Health Testing Program

The Children's Health Testing Program is the second component of the ChemRTK Initiative. The Agency has begun a stakeholder dialogue to design and develop a voluntary program to test commercial chemicals to which children have a high likelihood of exposure. Like the HPV Program, this effort will have a regulatory component as well. For more information, see the website at [www.epa.gov/opptintr/chemrtk/childlt.htm](http://www.epa.gov/opptintr/chemrtk/childlt.htm) or contact Catherine Roman, (202) 260-8155.

## Endocrine Disruptors Screening Program

Increased scientific and public attention has focused on the potential effects of synthetic chemicals on the hormone—or endocrine systems, of people and wildlife. The glands of the endocrine system—pituitary, thyroid, adrenal, ovaries, and testes—produce hormones that guide growth, behavior, development, and reproduction. A variety of chemicals have been found to disrupt the endocrine systems of animals in laboratory studies and evidence has accumulated that the endocrine systems of certain fish and wildlife have been altered by chemicals that contaminate their habitats. Some scientists suspect that some chemicals may cause human health problems including birth defects, breast cancer, prostate cancer, and infertility. While the science surrounding endocrine effects is very complex and evolving, the evidence from field and laboratory experiments—as well as epidemiological trends—has been compelling enough to take action.

In 1996, Congress amended the Federal Food, Drug, and Cosmetics Act (FFDCA) with the Food Quality Protection Act (FQPA). As part of this amendment, Congress directed EPA to develop by August 1999 a screening program to determine whether certain substances may have an effect in humans similar to an effect produced by naturally occurring hormones. Congress directed EPA to implement the program by August 1999 and report to Congress on its status in August 2000. Also in 1996, Congress amended the Safe Drinking Water Act and authorized EPA to require testing of contaminants in sources of drinking water under the FFDCA program.

The Agency is in the process of implementing its Endocrine Disruptor Screening Program (EDSP). Under the program, EPA is requiring the testing of pesticides and industrial chemicals for estrogenic, androgenic, and thyroid effects in people and wildlife. Testing under the program occurs in stages using a “tiered” approach. In EPA's EDSP, priorities for chemical testing

are based on existing data for fate and transport, toxicology and metabolism, production and use, as well as epidemiology and field studies.



With 15,000 chemical compounds to screen for potential to effect the endocrine system, EPA and OSI Pharmaceuticals have evaluated a high through-put robotic system that is normally used in drug development. Individual compounds are held in the 96 wells of the micro titer plate (lower left) and passed through the liquid handling system. From there, the compounds are transferred to another micro titer plate with tissue cells that respond to hormones. After incubating for 24 hours, the samples are brought out and the light emitted from each is measured. If the chemical compound blocks hormone action, the cells will emit less light. If the compound mimics a hormone, the tissue will emit more light. Although promising, additional research is necessary before such technology can be used reliably to determine whether pesticide and industrial chemicals may have an effect on the endocrine system.

In addition to using existing data, EPA completed a pilot demonstration of a high through-put in vitro screening assay system and is continuing work to determine the feasibility of using such systems for pre-screening up to 15,000 chemicals that are produced in volumes greater than 10,000 pounds annually. EPA hopes to use information gathered from such a system to help prioritize chemicals for testing.

Related to prioritization, EPA has adopted a phased approach to implementation beginning with statutory requirements of FFDCA. EPA is focusing on pesticides and inerts and on human health effects screening. With this in mind, EPA is ensuring validation of health-effects screens and tests first. EPA will then validate ecological screens and tests.

Once chemicals are prioritized, they will be screened in the Tier 1 phase. Chemicals that test positive in Tier 1 will move to Tier 2 and be tested in multi-generation studies.

## NCP Weekly Posting on Internet

Since February 1998, OPPT's New Chemicals Program has provided on the Internet the weekly status of Premanufacture Notices (PMNs)—the information that chemical manufacturers must submit to EPA for analysis to determine if a new chemical poses health or environmental risks. The site includes PMN receipts and regulatory decision status information as requested by chemical manufacturers. The postings help companies keep track of their cases and plan commercialization schedules. For more information, see the website at [www.epa.gov/opptintro/newchms/dropstat.htm](http://www.epa.gov/opptintro/newchms/dropstat.htm) or contact Anna Coutlakis, (202) 260-3592 or Karen Boswell, (202) 260-1635.

EPA has completed a number of activities for implementing its EDSP. Updates on the program can be found at [www.epa.gov/opptintro/opptendo](http://www.epa.gov/opptintro/opptendo) or by contacting Gary Timm, (202) 260-1859 or Anthony Maciorowski, (202) 260-3048.

## Harmonized Test Guidelines

Differences in test guidelines among EPA offices have the potential to cause confusion and unnecessary chemical testing. Similarly, at the international level, differences in test guidelines among nations lead to unnecessary chemical testing in world commerce. To avoid duplication of testing, OPPT and the Office of Pesticides Programs (OPP) began an effort in the mid-1980's to harmonize their guidelines for human health and ecotoxicity testing into a single set of guidelines. They began an international effort in 1990 to harmonize OPPT's guidelines with those of OECD.

By cooperating closely with other federal agencies, states, tribes, non-governmental organizations, and with its counterparts in other countries, EPA is reducing the burden for regulated industry, increasing efficiency in collecting test data and in assessing risk, and fostering the mutual acceptance of test data between the United States and other countries. In August 1998, OPPT finalized the health effects guidelines that will now be used by TSCA programs. The guidelines can be found on the Internet at [www.epa.gov/OPPTS\\_Harmonized](http://www.epa.gov/OPPTS_Harmonized).

## Significant New Use Rules (SNURs)

OPPT may issue a significant new use rule (SNUR) when potential new uses of a new or existing chemical could result in increased exposures or releases of the chemical and pose an unreasonable risk to human health or the environment. A total of 236 significant new use rules were issued in Fiscal Years 1998 and 1999 (FY1998-99). These rules provide OPPT with an opportunity to review the interaction of the chemical in a different process and for different uses. In addition, 18 new chemical SNURS were revoked and five existing SNURS were modified based on submission of additional toxicity or exposure data. For more information, contact Anna Coutlakis, (202) 260-3592.

## TSCA Test Rules, Enforceable Consent Agreements, and Voluntary Testing Agreements.

During FY 1998, OPPT initiated or developed TSCA Section 4 Test Rules and Enforceable Consent Agreements (ECAs) to require industry to conduct health and environmental effects studies. Most of the testing actions cited below involve chemicals that are produced domestically or imported in high volumes and have substantial human or environmental exposure.

**Hazardous Air Pollutants Rule**—In 1996, OPPT proposed a rule for comprehensive health effects inhalation testing that involves more than 100 toxicological studies for 23 Hazardous Air Pollutants (HAPs). Industry was invited to propose ECAs to use pharmacokinetics and other mechanistic data to extrapolate information from existing studies and thereby avoid having to conduct some or all of the proposed testing. During FY 1998, OPPT amended the proposed rule and signed two agreements, started negotiations on seven ECAs, and received three additional alternative testing ECA proposals. For more information, contact Richard Leukroth, (202) 260-0321.

**Superfund Site Chemicals - Organics and Metals**—The Agency for Toxic Substances and Disease Registry (ATSDR) requested that EPA use its TSCA Section 4 testing authority to require industry to conduct certain health effects testing of eight organic chemicals (benzene, chloroethane, hydrogen cyanide, sodium cyanide, methylene chloride, perchloroethylene, toluene, and trichloroethylene) and six metals (beryllium, chromium, manganese, mercury, nickel,



and selenium). ATSDR will use these data for health assessments for populations near Superfund hazardous waste sites. Because metals present unique issues for testing, OPPT and ATSDR have assembled an interagency metals testing task force to focus on metals testing needs. OPPT expects to issue a proposed rule for the ATSDR Organics and establish a schedule for issuing the proposed rule for the ATSDR Metals in FY 2000. For more information, contact Bob Jones, (202) 260-8150.

*Dibasic Esters*—In FY 1998, OPPT reached agreement with producers of dibasic esters (DBEs)—solvents used as substitutes for methylene chloride in some consumer paint stripping products—on all provisions of a TSCA Section 4 ECA. The ECA covers toxicity and dermal penetration rate testing of three DBEs for which the U.S. Consumer Product Safety Commission needs health effects data. In FY 1999, the ECA was signed by all parties and went into effect under the terms of an order. For more information, contact George Semeniuk, (202) 260-2134.

## EPA's New Chemicals Program PBT Chemical Category

As part of the Agency's initiative for addressing the health and environmental risks of persistent bioaccumulative toxic (PBTs) chemicals, OPPT developed in FY 1998 a new category for assessing new chemical substances under TSCA Section 5(e) prior to their entry into the marketplace.

The PBT category description draws upon ongoing international efforts as well as EPA efforts to craft a coordinated and scientifically sound approach to identifying PBT chemical substances.

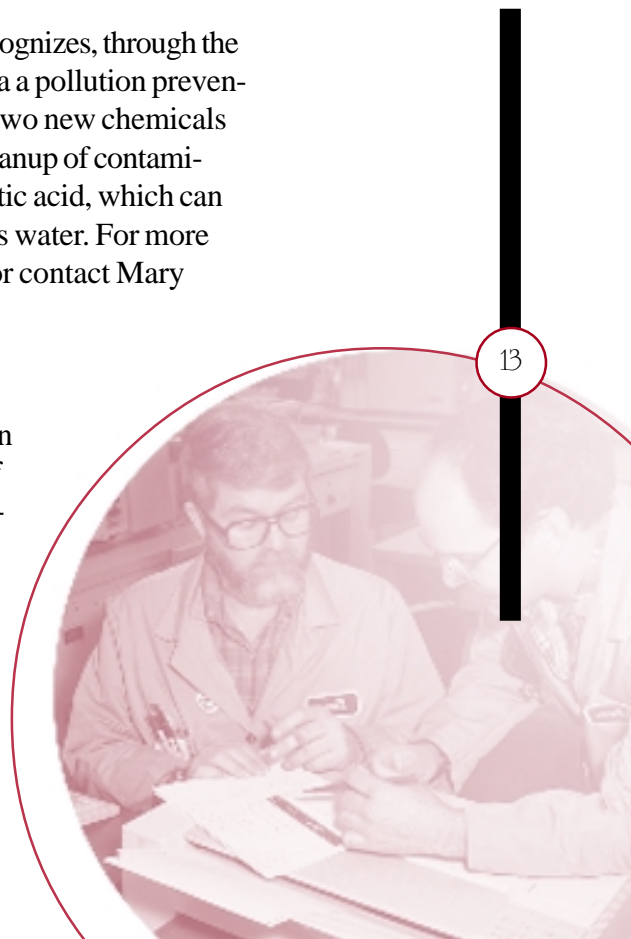
With this category, EPA will be able to track PBT chemical substances through the TSCA New Chemicals Program and measure the results of its risk screening and risk management activities as one component in the Agency's overall PBT Initiative. (See also the Risk Reduction and Public Understanding chapters for other activities related to the PBT Initiative.)

## The New Chemicals Pollution Prevention Recognition Award

The New Chemicals Pollution Prevention Recognition Program annually recognizes, through the PMN process, new chemicals that may be safer substitutes or developed via a pollution prevention process. In FY 1998, OPPT recognized Applied Power Concepts for two new chemicals that will be environmentally safer and cost-effective products used in the cleanup of contaminated soil and ground water. The products decompose in water to form lactic acid, which can be broken down by microorganisms. The only by-product of the process is water. For more information see the websites at [www.epa.gov/opptintr/newchms/p2.htm](http://www.epa.gov/opptintr/newchms/p2.htm) or contact Mary Begley, (202) 260-1769.

## TSCA Information Rules

As a part of EPA's 1994 regulatory review, requirements under TSCA Section 8(d) were reviewed to reduce the reporting burden for industry. As a result of this review, EPA revised its TSCA Section 8(d) health and safety data reporting rule that requires chemical manufacturers (including importers) and processors of listed substances and mixtures to report unpublished health and safety studies. The revised rule, effective June 1998, decreases the public reporting burden by 5,000 hours and reduces costs for EPA while still providing the Agency and other federal agencies with the needed data. This reinvention activity reduces the burden placed on EPA, the Interagency Testing Committee, and industry, while still providing EPA and other federal agencies the needed data. For more information, contact Keith Cronin, (202) 260-8157.



## 1998 Inventory Update Rule Electronic Reporting

OPPT encouraged manufacturers and importers reporting under the 1998 Inventory Update Rule (IUR) to use one of two electronic reporting forms developed by EPA and beta tested by members of the regulated community. For the first time since reporting to the IUR began in 1986, companies may meet their reporting obligations by filing their 1998 IUR reports electronically. Both forms can be completed online and saved to an electronic medium for submission to the Agency.

The electronic Form U-Executable, which was mailed to companies in the 1998 IUR Reporting Packages, is an executable file that contains a help file, error checks, and other features designed to facilitate form preparation and subsequent data processing by EPA. The Form U-Downloadable, available from the 1998 IUR website at [www.epa.gov/opptintr/iur98](http://www.epa.gov/opptintr/iur98), was developed in portable data format (pdf) to make it easy to download and compatible with nearly all platforms. The website was developed to help companies meet their reporting obligations by providing access to all the hardcopy information sent to manufacturers and importers in the 1998 IUR mailing packages. For more information, contact Deborah A. Williams, (202) 260-1734.

## TSCA Inventory Update Rule Amendments

During FY 1998-99, the Agency proposed changes to the Inventory Update Rule (IUR). The IUR updates the TSCA Chemical Substances Inventory every four years by collecting basic production information for about 9,000 chemical substances produced in quantities of 10,000 pounds or more annually. The Agency proposes to adjust reporting thresholds and exemptions, to add exposure-related information to the collection, and to make a number of basic administrative and confidential business information changes.

EPA will use this information to screen chemicals based on their relative risk and exposure potential and to set national priorities for more in-depth risk assessment and risk management activities. The amendments were proposed in August 1999. For more information, contact Susan Krueger, (202) 260-1713.

## TSCA Biotechnology Rule

Under the TSCA Biotechnology rule that regulates new microorganisms, intergeneric microorganisms (those containing genetic material from more than one genus) are subject to notice and review under TSCA Section 5. To date, OPPT has received six submissions of new microorganisms for review.

In FY 1998, OPPT approved the first consolidated TSCA Experimental Release Application (TERA) submission for three microbial seed inoculants that have been altered to improve nodulation and nitrogen fixation in the roots of soybean plants. In FY 1999, EPA approved a follow-up TERA for several additional sites for two of these microbial seed inoculants.

A second consolidated TERA submission was approved for two microorganisms that emit light in the presence of trinitrotoluene (TNT). The microorganisms are intended for land applications that detect the presence of active land mines.

Also in FY 1998, OPPT reviewed the first consolidated Microorganism Commercial Activity Notice (MCAN) for two microorganisms that have been altered to produce commercial enzymes for the detergent industry. Two MCANs for microorganisms that have been altered for commercial biosynthesis of enzymes for secondary oil recovery operations were received in FY 1998-99. Under the provisions of the TSCA Biotechnology rule, OPPT determined that all four microorganisms may be commercialized without restrictions. For more information, see the website at [www.epa.gov/opptintr/biotech](http://www.epa.gov/opptintr/biotech) or contact Jim Alwood, (202) 260-1857.



## Green Chemistry

OPPT's Green Chemistry Program fosters the research, development, and implementation of innovative chemical technologies that accomplish pollution prevention in both a scientifically-sound and cost-effective manner. It recognizes chemical technologies that reduce or eliminate the use or generation of hazardous substances during the design, manufacture, and use of chemical products and processes that can be applied broadly in industry. The program also supports a variety of educational projects, recognition activities, international activities, conferences and meetings, tool development, and fundamental research. The following FY 1998-99 activities and accomplishments demonstrate the breadth of the program:

- In partnership with EPA's Office of Research and Development and the National Science Foundation, the Green Chemistry Program continues to award \$5 to \$7 million in grants annually through the Technology for a Sustainable Environment solicitation for the development of benign feedstocks and reagents, greener solvents and reaction conditions, safer chemical products, and pollution preventing analytical methods. OPPT's other partners in research activities include the Center for Process Analytical Chemistry, the Department of Energy, and Los Alamos National Laboratory.



The PYROCOOL technology successfully demonstrates that selective employment of biodegradable substances dramatically enhances the effectiveness of simple water, while eliminating the need for traditionally used fire extinguishing agents such as glycol ethers or fluorosurfactants that are toxic and/or harmful to the environment. PYROCOOL has been employed successfully against numerous fires in America and abroad. Recently, it was used for extinguishing an oil tanker fire at sea on board the *Nassia* in the Bosphorous Straits in just 12.5 minutes (a fire originally estimated by Lloyd's of London to require 10 days to extinguish). Using PYROCOOL saved 80 percent of the ship's cargo and prevented 78,000 tons of crude oil from spilling into the sea.

- In partnership with the American Chemical Society and the Partnership for Environmental Technology Education, Green Chemistry is developing a reference compendium, textbook supplements, and laboratory manuals; a training course for professional chemists; train-the-trainer workshops that demonstrate the quick incorporation of green chemistry concepts and examples; technical and two-year college curricula; databases of green chemistry examples; videos and compact discs; publication of books and articles,



organization of workshops and conferences; and, the further development of the Green Chemistry Expert System.

- With OECD, Green Chemistry is establishing an international partnership between government entities, industry, and academic institutions to promote and disseminate globally innovative science and technology that form the basis of sustainable chemistry and to assist countries in the establishment of their own sustainable chemistry programs. Areas of focus within this initiative include research and development, education, recognition, outreach, and guidance to developing nations.

For more information, contact Tracy Williamson , (202) 260-3960.

## 1998 Green Chemistry Challenge Awards

- Professor Barry Trost, Stanford University, was selected for developing the concept of atom economy, an approach that allows industry to reduce or eliminate waste from the manufacture of chemical products while still maximizing profits.
- Professors Karen Draths and John Frost, Michigan State University, were selected for their use of microbes as environmentally benign catalysts in the synthesis of important industrial chemicals.
- PYROCOOL was selected for developing and introducing commercially an environmentally responsible fire extinguishment and cooling agent.
- Flexsys was selected for developing a new process that synthesizes important chemicals used to manufacture rubber products, including 4-aminodiphenylamine (4-ADPA).
- Argonne National Laboratory was selected for developing an economically viable process for producing lactate esters as nontoxic and biodegradable solvents.
- Rohm and Haas Company was selected for designing an environmentally safe insecticide that offers farmers a safer, effective technology for insect control in turf and a variety of agronomic crops.

## 1999 Green Chemistry Challenge Awards

- Professor Terry Collins, Carnegie Mellon University, was selected for developing a series of iron-based catalysts that enhance the activity of hydrogen peroxide in bleaching processes in the pulp and paper, water disinfection, and laundry industries.
- Biofine Inc. was selected for designing a process that converts paper mill sludge, municipal solid waste, unrecyclable waste paper, waste wood, and agricultural residues to a versatile chemical.
- Lilly Research Laboratories was selected for designing a newer manufacturing process for a central nervous system drug that eliminates chromium from the manufacturing waste stream and reduces the amount of chemical solvents in the manufacturing process.
- Nalco Chemical Co. was selected for developing a new water-based process for manufacturing liquid polymer that eliminates the use of hydrocarbon solvents and surfactants required in high volume with traditional emulsion polymers.
- Dow AgroSciences was recognized for developing Spinosad, an insecticide produced from naturally occurring microorganisms, that targets chewing pests in cotton, trees, fruits and vegetables without harming most beneficial insects, animals, and birds.

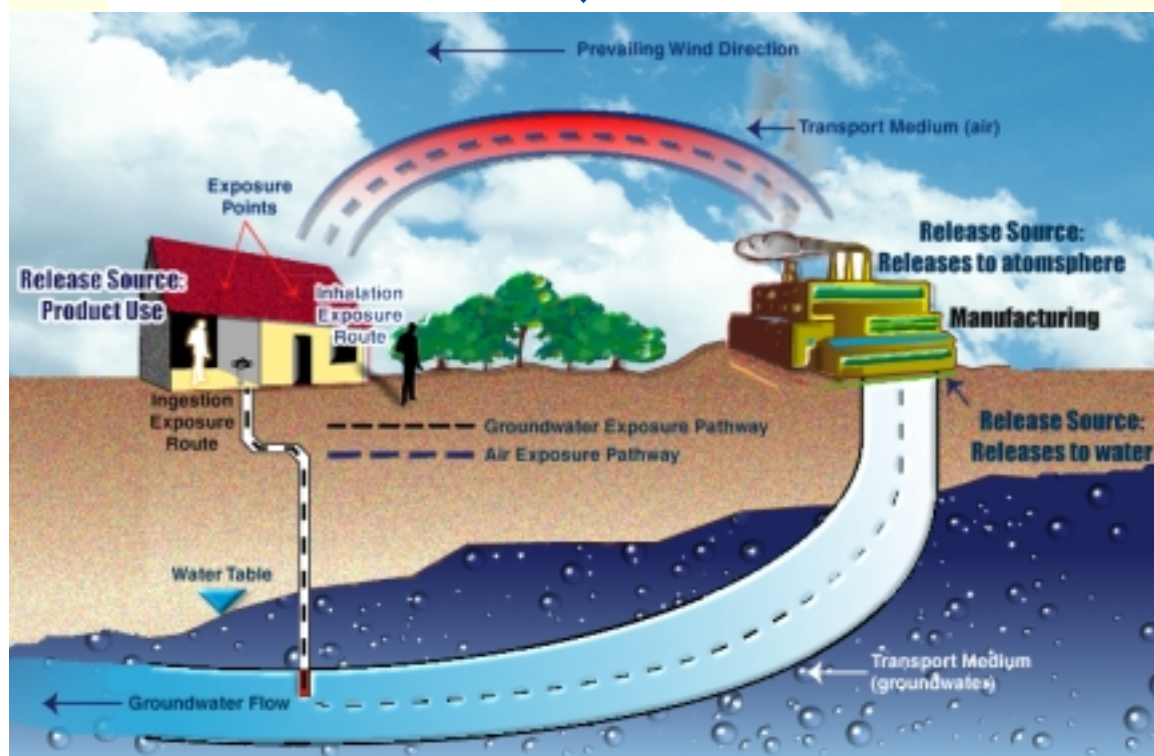
The annual Presidential Green Chemistry Challenge Awards Program recognizes outstanding chemical technologies that incorporate green chemistry principles into chemical design, manufacture, and use. The Awards Program is open to all individuals, groups, and organizations including academia and industry. Award recipients receive national public recognition for their outstanding accomplishments in the research, development, and implementation of green chemical technologies.

## Green Engineering

In FY 1998, OPPT launched the Green Engineering program to introduce “green” or environmentally conscious thinking into chemical engineering education and practice. Green Engineering goes beyond traditional methods of reducing the amount of waste leaving a plant. It incorporates pollution prevention as a design objective and integrates risk assessment into process design and optimization. By applying risk assessment screening tools to processes and products, the engineer can minimize the generation of pollution at the source and impacts of hazard and exposure on human health and the environment.

The primary focus over the past year has been development of a textbook and course outline that incorporates P2 and risk assessment approaches that engineers can use to design greener processes. The textbook will be in modules so that schools can use it in a new elective course

### Processes that determine environmental hazards



In this diagram from the Green Engineering textbook, environmental hazards are defined in relation to the processes that can create or move those hazards through the environment.

or incorporate chapters of the textbook into existing engineering courses. OPPT plans to complete the textbook manuscript in Fall 1999.

OPPT is also partnering with the American Society of Engineering Education (ASEE) to disseminate information to engineering schools and to help them incorporate green approaches and methods into current engineering curricula.

A future goal of the green engineering program is to work with the industrial community in a partnership with the American Institute of Chemical Engineers (AIChE) to incorporate green information into continuing education training for practicing engineers. For more information, contact Nhan Nguyen, (202) 260-3741.



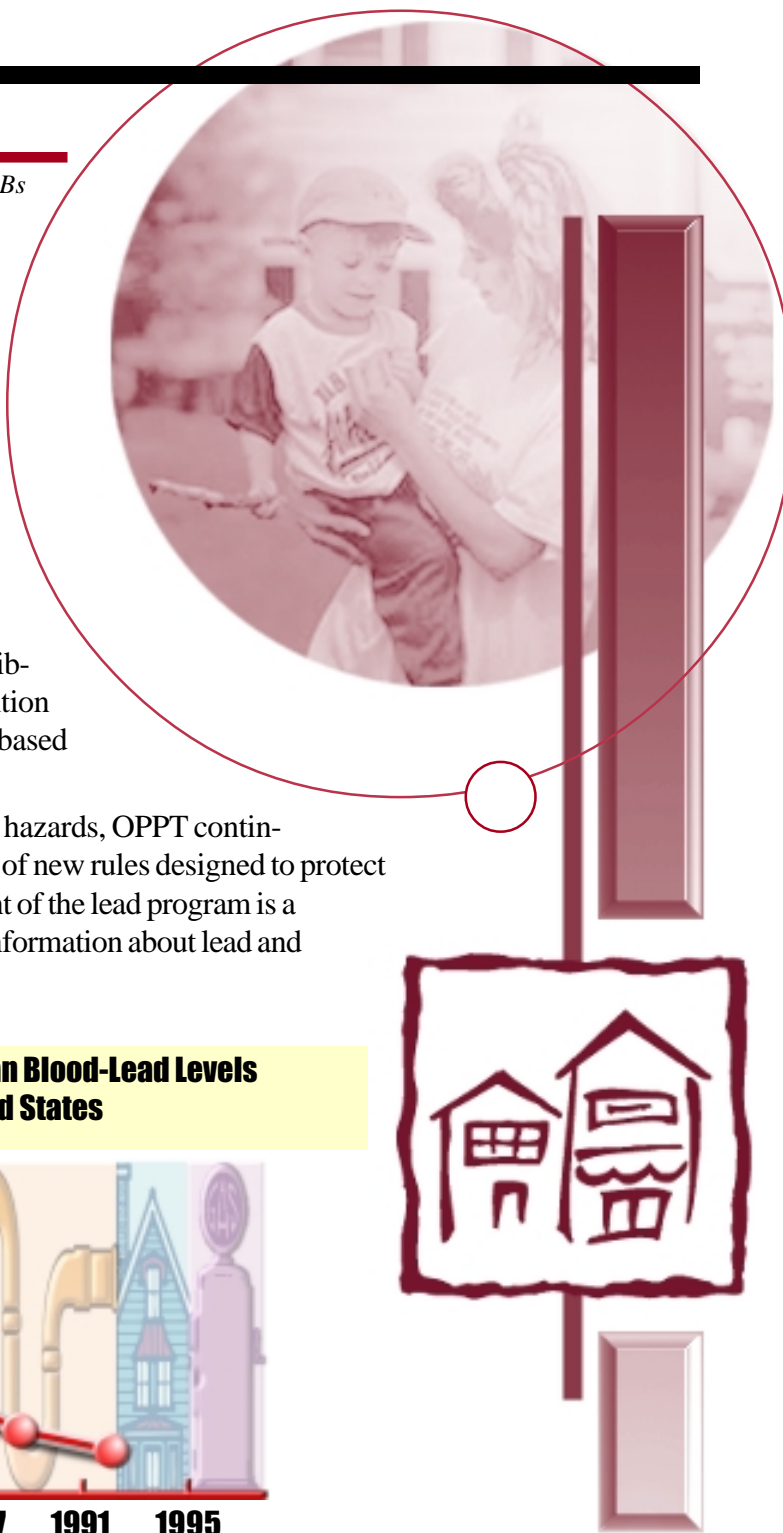
# Risk Reduction

OPPT promotes reduction of risk from lead, asbestos, dioxin, and PCBs by implementing aggressive programs to minimize exposure to these highly toxic substances.

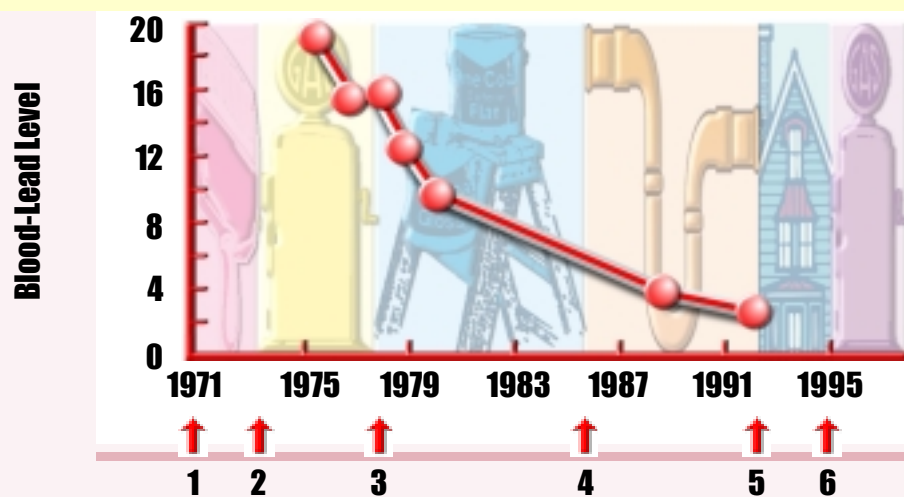
## Lead Programs

Exposure to lead hazards can have serious health consequences, particularly for children. Lead poisoning has been linked to such conditions as reading and learning disabilities, IQ deficiencies, hyperactivity, and impaired hearing. In the past, the use of leaded gasoline and lead-based paint contributed to the contamination of the environment. Over the past twenty years, however, there has been significant progress in preventing childhood lead poisoning. Much of this can be attributed to the passage of the 1971 Lead-based Poisoning Prevention Act, the phaseout of lead in gasoline, and the banning of lead-based paint.

In order to sustain the progress already made in reducing lead hazards, OPPT continues to fund technical studies and to work on the promulgation of new rules designed to protect human health and the environment. Another major component of the lead program is a wide-ranging outreach and education program that provides information about lead and lead programs to all interested parties.



**The Effects of Federal Actions On The Geometric Mean Blood-Lead Levels Of Children 1-5 Years Of Age In The United States**



### **Actions To Reduce Exposure To Lead**

1. 1971—Lead-Based Paint Poisoning Prevention Act
2. 1973—EPA begins phaseout of lead in gasoline
3. 1978—CPSC bans sale/distribution of lead-based paint
4. 1986—Lead in plumbing, fixtures, and other solder banned
5. 1992—Lead Title X to abate lead hazards in housing



## Identification of Lead-based Paint Hazards, Lead-contaminated Dust, and Lead-contaminated Soil

Childhood lead poisoning is a preventable disease, but to prevent it effectively the public and decision makers need information to help evaluate homes, day care centers, and kindergartens for lead-based paint hazards and to develop appropriate lead-based paint hazard control strategies.

Congress required EPA to establish regulatory standards for identifying lead-based paint hazards, lead-contaminated dust, and lead-contaminated soil. These standards will be used to support implementation of the national lead-based paint hazard reduction program, including disclosure of hazards prior to sale or lease of most pre-1978 property and evaluation and control of lead-based paint hazards in federally-assisted and federally-owned housing. EPA issued interim guidance on these standards on July 14, 1994, that was published in the *Federal Register* on September 11, 1995 (60 FR 47248).



EPA published a proposed regulation on these standards on June 3, 1998. At the same time, the Agency made two new guidance documents available for public comment. In September 1998, OPPT met with EPA's Science Advisory Board for a review of the technical supporting analyses for the proposed rule. The Agency also held two public meetings (San Francisco, California and Washington, D.C.) to give interested parties the opportunity to offer oral comments. The public comment period ended March 1, 1999.

EPA will review and analyze all public comments and Science Advisory Board recommendations. EPA will revise the proposed regulation based on its evaluation of the comments and publish the final regulation and accompanying guidance documents. Until then, the OPPT interim guidance, issued in 1994 and published in the *Federal Register* in 1995, remains the official Agency policy. For more information, contact Jonathan Jacobson, (202) 260-3779.

## Pre-Renovation Information Rule

The Pre-Renovation Information Rule requires distribution of lead hazard information prior to starting renovation activities that could disturb lead-based painted surfaces. The Agency believes that distribution of this information will help reduce lead exposures.

This rule, published June 1998, requires renovators to provide a lead hazard information pamphlet to owners and occupants of pre-1978 housing prior to commencing the renovation. In addition, the rule requires notification on the nature of the renovation activities in certain circumstances involving multi-family housing. This rule ensures that owners and occupants of target housing are provided information concerning potential hazards of lead-based paint exposure before certain renovations are begun. In addition, the lead hazard information pam-

phlet advises owners and occupants to take appropriate precautions to avoid exposure to lead-contaminated dust and lead-based paint debris that are sometimes generated during renovations. The rule went into effect June 1, 1999. For more information, contact Dayton Eckerson, (202) 260-1591.

## Renovation and Remodeling Rule

The Residential Lead-Based Paint Hazard Reduction Act (Section 402; Title X) requires EPA to conduct a study of lead exposure associated with renovation and remodeling (R&R) activities. The results will be used in conjunction with public dialogue to help determine which groups of people conducting R&R activities require training, certification, or educational materials. Subsequently, EPA will revise the training and certification regulations to include these groups and activities.

EPA held several public meetings in late 1998 and early 1999 for interested parties to contribute information and perspectives on specific policy questions related to this rulemaking. EPA expects to publish a proposed rule for public comment in 1999. For more information, contact Mike Wilson at (202) 260-4664.

## Renovation and Remodeling Study

To support the R&R rule, EPA is studying the extent to which renovation and remodeling activities may create a lead exposure hazard for building occupants or for workers themselves. The R&R study has four phases, with the fourth completed in FY 1998:

- The Environmental Field Sampling Study involved collecting and analyzing air and settled-dust samples for lead.
- The Worker Characterization and Blood-Lead Study, where a broad assortment of R&R professionals provided blood samples for analysis and filled out a detailed questionnaire pertaining to their work habits and experience and other factors.
- The Wisconsin Childhood Blood-Lead Study used the Wisconsin blood-lead registry to focus on the relationship between R&R activities and children's blood-lead levels.
- The recently completed R&R Phase IV study focused on individuals who work primarily in old or historic buildings. Both professional R&R workers and homeowners who work extensively in old buildings were included in this study.

Results from all four phases of the study are available. For more information, contact Dan Reinhart, (202) 260-1585.

## Proposed Rule on the Management and Disposal of Lead-Based Paint Debris

The Departments of Housing and Urban Development and Health and Human Services, several states, advocacy groups, and the regulated community have expressed concerns that the costs of testing and disposal of debris containing lead-based paint under the Resource Conservation and Recovery Act (RCRA) are a significant obstacle to financing lead abatement. The TSCA standards, proposed December 1998, allow lead-based paint debris to be managed and disposed of in a more consistent and less costly manner.



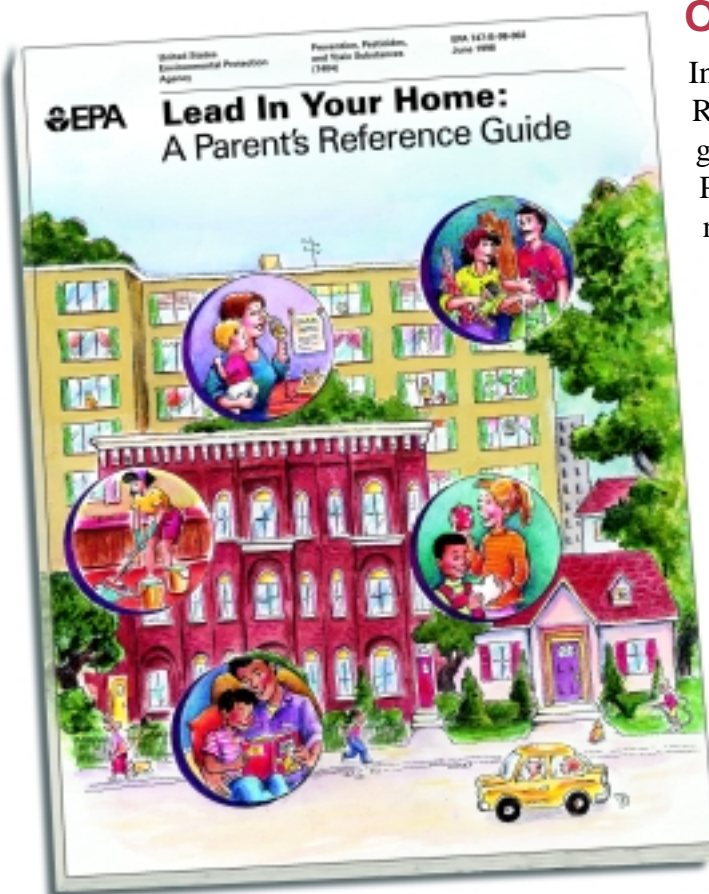
OPPT worked closely with EPA's Office of Solid Waste to develop the TSCA proposal. After receiving and evaluating public comment, the Agency expects to issue a final rule. For more information, contact Dave Topping, (202) 260-7737.

## Region 5 Multimedia Strategy for the Management and Reduction of Lead Hazards

EPA's Region 5 adopted its first multimedia strategy for managing and reducing the hazards associated with human exposures to lead in FY 1998. A special work group comprised of representatives from each of the major program and division offices formulated innovative cross-media approaches to further reduce childhood lead poisoning. The strategy calls for a regionwide effort to reduce childhood lead poisoning by targeting efforts to those children who are at greatest risk (children under age six with blood-lead levels of 10 ug/dL or greater). These children and the neighborhoods they live in will be identified through a screening procedure that will consider blood-lead levels, environmental sources of lead, housing, and demographic data. The region will approach the effort using community-based environmental protection, standardized scientific methods, and partnerships with state, tribal, and local governments. During FY 1999, the region completed community-based lead assessments for each of the region's geographic initiative areas, along with a geographic information system screening as described above. For more information, contact Phil King, (312) 353-9062.

## Public Education and Outreach Grants

In FY 1998, OPPT and the EPA Regional Lead Programs awarded grants under the new Lead Poisoning Prevention and Lead Hazard Awareness Public Education and Outreach



A comprehensive new guide for parents and homeowners about lead hazards and lead poisoning prevention in the home, *Lead In Your Home: A Parent's Reference Guide*, is an important new tool in EPA's efforts to raise lead hazard awareness. The new publication provides comprehensive guidance on steps that can be taken to reduce lead hazards, including information on common sources of lead in the home, how to test for the presence of lead, and safeguards for preventing exposure when conducting home repairs or renovations. The guide also provides a list of state and other contacts that can provide families

with more assistance in protecting their children from lead hazards. The guide is available free from the National Lead Information Center and OPPT's Lead Homepage at [www.epa.gov/lead](http://www.epa.gov/lead). For more information, contact Megan Carroll, (202) 260-7269.



Grant Program. Its purpose is to provide public education and outreach that increases awareness of lead-based paint hazards and promote lead poisoning prevention among those at risk, including primarily low-income, minority communities located in large metropolitan areas or communities with predominantly older housing. Children living in these communities are at risk for elevated levels of lead exposure. Nine projects across the country received funding this year totaling approximately \$459,000. The Agency will evaluate the effectiveness of this first round of grant funding before planning for the future of the program. For more information, contact Megan Carroll, (202) 260-7269.

## “RUNS BETTER UNLEADED” Campaign

In FY 1998, OPPT developed the “Runs Better Unleaded” poster campaign to promote lead hazard awareness. As part of this campaign, EPA and the Washington Metropolitan Area Transit Authority (WMATA) placed 500 posters in Metrobuses and stations and placed 10 dioramas in the WMATA Metrorail stations in February and March 1999. To further promote



EPA’s Lead Awareness Program, EPA Regional Lead Coordinators are investigating opportunities to place the posters in other cities, such as Dallas and Seattle. Wall posters have been distributed to state, tribal, and local departments of health, as well as to children’s advocacy groups.

In FY 1999, the poster won an Award of Merit in the poster category for visual communication for either internal or external audiences by the International Association of Business Communicators, a professional association comprised of members of public relations firms, advertising agencies, communications firms, and

consultants who work in the field of both communication and visual arts.

Posters are available by calling the National Lead Information Center, 1-800-424-LEAD. For more information, contact Megan Carroll, (202) 260-7269.

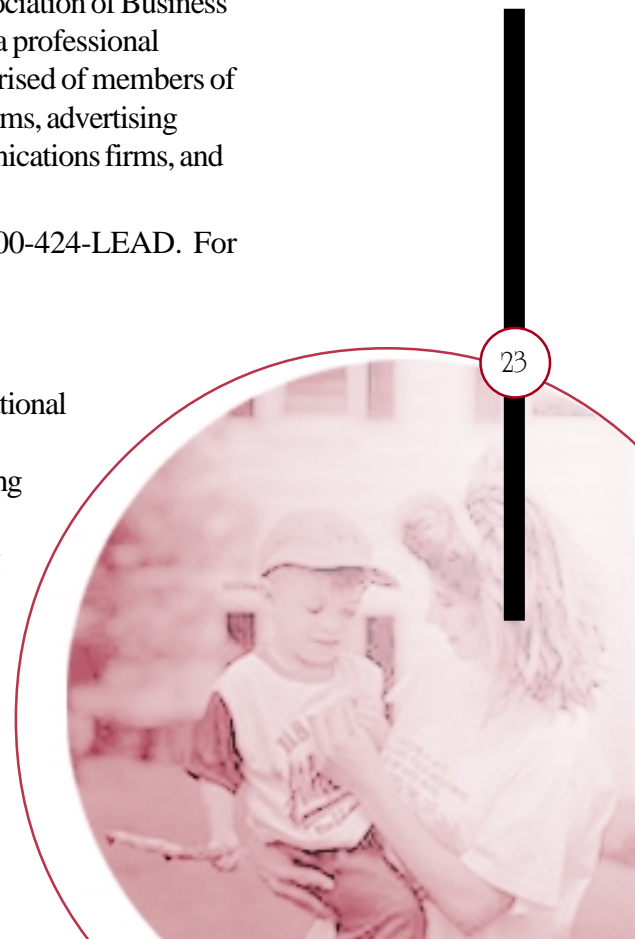
## The National Cinema Outreach Pilot Project

During the months of December 1998 and January 1999, OPPT piloted the National Cinema Outreach Project to provide for the first time, lead hazard awareness information on theater screens. This nationwide program of three slides containing lead poisoning awareness messages was piloted in 17 states, 57 cities, 510 screens, with 1530 screenings each day, or 45,900 viewings each month during this time period. The slides featured medical backgrounds with different messages (“Protect Your Children From Lead Poisoning,” “Grow Them Up Healthy,” and “Get Your Child Tested Today”) and the 1-800-424-LEAD number and the Lead website. It is estimated that the lead hazard awareness messages were viewed by a half-million people. For more information, contact Susan Laing, (202) 260-0248.

**1-800-424-LEAD**

### National Lead Information Center Hotline

The National Lead Information Center collects, evaluates, and disseminates information on the assessment and reduction of lead-based paint hazards; adverse health effects; sources of exposure, detection and risk assessment methods; environmental hazards abatement and clean-up standards. The Hotline also offers a number of publications in Spanish. For more information, contact Robert Wright, (202) 260-7800.



## In the Regions

EPA's Region 1 has developed several education and outreach brochures in Arabic, Croatian, Bosnian, and Vietnamese on the hazards of lead paint, radon, asbestos, and mercury. The New England Lead Coordination Committee is providing information to the public and contractors through billboards along highways, posters in hardware stores, radio spots, press releases, and hardware store personnel education. The region developed manuals in English, Spanish, and Indian languages spoken in New England for a 40-hour course designed to educate state, tribal, and community officials to train daycare providers in presenting lead safe techniques to young children. Attendees learn how to perform story boards, puppet shows, songs, and skits, and how to cook healthy foods, look for lead dust, and instill safe habits such as washing hands. For more information, contact Jim Bryson, (617) 918-1524.

EPA's Region 2 is distributing *The Trouble with Lead*, a 30 minute video about the hazards of lead-based paint. The video was produced by New York State and funded with an EPA State Lead Grant. Three thousand copies have been distributed for free use by the public to New York State Public Libraries, county health offices, Blockbuster Video stores, and Home Depot and Builder's Square hardware retail stores. For more information, contact Louis Bevilacqua, (732) 321-6671.

The city of Chicago has the largest Polish community in the United States with many employed in the construction trades. In an effort to inform the community about the Pre-Renovation Lead Information Rule, EPA's Region 5 provided in June 1999 translations of the newly effective 406(b) guidance to the Polish media in Illinois, Wisconsin, Michigan, Minnesota, and Missouri. The wording for the poster "Runs Better Unleaded" was translated into Polish. The first edition will be available in mid-September, and the posters will be delivered to Polish communities. For more information, contact Ludmilla Koralewska, (312) 886-3577.

## National Latino Lead Education Campaign

The National Safety Council, with a grant from OPPT, developed a National Latino Lead Education Campaign to reach this growing population (estimated to be 30 million persons) with the lead poisoning prevention message. Kicked off in Washington, D.C. on June 15, 1999, the campaign included a public service announcement for television stations in Spanish and English; posters placed in buses in New York, Miami, and Los Angeles; and, a week long series on lead poisoning prevention that was broadcast on 62 radio stations in the United States and Puerto Rico. The following services and products have also been produced: a "Lead Inform" pamphlet; posters in Spanish; Spanish language websites; a database of lead educational materials; translations at the federal and local levels of programs and educational materials; and bilingual translations for meetings and other presentations. In addition, a number of EPA's regional offices have developed materials in Spanish for the Latino audience. For more information, contact Robert Wright, (202) 260-7800.

## Implementation of Lead-Based Paint Accreditation, Training, and Certification Program

Safe removal of lead-based paint requires a professional who knows how to evaluate and remove the hazard without making the problem worse. To ensure that homeowners and others who need these services can locate trained professionals, EPA published in August 1996 the final TSCA Section 402/404 rule for training and certification of workers, accreditation of training programs, and model state programs for lead-based paint activities in target housing and



child-occupied facilities. Implementation of the Federal program was deferred until August 29, 1998 to allow states and Indian tribes to apply and receive authorization to run their own EPA-approved lead-based paint programs based on the federal program. Ongoing activities related to the implementation of the programs include:

- OPPT has been working through the Regional Offices and the Forum on State and Tribal Toxics Action (FOSTTA) to help states and tribes develop their own lead-based paint training and certification programs. To date, 29 States, the District of Columbia, and two Indian tribes have received authorization to run their own programs.
- Since 1995, the Agency has provided TSCA Section 404(g) grants/cooperative agreements to states, tribes, U.S. territories, and the District of Columbia to research blood-lead levels in their communities, identify high risk communities, develop legislation, and build a lead-based paint program infrastructure where necessary.
- The federal lead-based paint accreditation, training, and certification program became effective on August 31, 1998, in all non-authorized states and Indian tribes. All training providers must now be accredited by EPA to offer lead-based paint activities courses in the federal program. Requirements for certification and work practice standards were supposed to be effective on August 30, 1999. However, there were not enough training providers to accommodate the number of individuals seeking certification prior to the August 30, 1999 date. Therefore, EPA extended the effective date until March 1, 2000, for certification of individuals and firms and use of work practice standards. OPPT will continue to work through the regional contacts and FOSTTA to fully implement the lead-based paint program.
- OPPT developed applications, forms, and instructions for training providers to use when applying for accreditation and individuals and firms to use when applying for certification. These materials, as well as the Agency's fees for receiving accreditation and certification and the applicable regulations, are posted on the Agency's website at [www.epa.gov/lead](http://www.epa.gov/lead).

These documents as well as other relevant documents may also be obtained from the National Lead Information Center at 1-800-424-LEAD. For more information, contact Traci Brown, (202) 260-8487 or Ellie Clark, (202) 260-3402.

## Persistent, Bioaccumulative Toxics (PBT) Initiative

Persistent, bioaccumulative toxic pollutants (PBTs) are highly toxic, long-lasting substances that can build up in the food chain to levels that are harmful to human and ecosystem health. They are associated with a range of adverse human health effects including effects on the nervous system, reproductive and developmental problems, cancer, and genetic impacts. EPA's challenge in reducing risks from PBTs stems from the pollutants' ability to travel long distances, to transfer easily among air, water, and land, and to linger for generations in people and the environment.

In response to the problem, EPA developed the *Draft Multimedia Strategy for Priority Persistent, Bioaccumulative, and Toxic Pollutants*. EPA's strategy outlines several actions the Agency will take to reduce exposures to and uses of PBTs. Near-term actions include the following:

- Prevent the introduction of new PBTs into commerce.
- Encourage voluntary reductions of priority PBTs in hazardous waste.
- Provide information to the public about mercury emissions from utilities.



- Increase the public's right-to-know about local sources of PBT emissions. (See also the Public Understanding chapter.)
- Evaluate fish in U.S. water bodies for PBT contamination.

A major component of EPA's strategy is to develop and implement national action plans that reduce risks from select PBTs. EPA's first national action plans will be developed for 12 priority PBTs named in the Canada-U.S. Binational Toxics Strategy. (See below.) EPA proposed a draft action plan for mercury at the same time it proposed the Strategy in the Fall of 1998. In addition the Agency is developing draft action plans covering the remaining 11 substances and will propose most of these for public comment in the Fall of 1999. EPA conducted a preliminary stakeholder review for four draft plans in August 1999. For more information, see the website at [www.epa.gov/pbt](http://www.epa.gov/pbt) or contact Sam Sasnett, (202) 260-8020.

| EPA's First 12 Priority PBT Pollutants from the Canada-U.S. Binational Toxics Strategy |                     |
|--|---------------------|
| aldrin/dieldrin  | mercury & compounds |
| benza(a)pyrene   | mirex               |
| chlordane  | octachlorostyrene   |
| DDT  | PCBs                |
| hexachlorobenzene  | dioxins & furans    |
| alkyl-lead   | toxaphene           |

## Great Lakes Binational Toxics Strategy

In an effort to reduce or eliminate PBTs from the Great Lakes Basin, the Great Lakes National Program Office (GLNPO), EPA Regions 5, 3, and 2, Environment Canada, and various stakeholders developed the *Great Lakes Binational Toxics Strategy: Canada—United States Strategy for the Virtual Elimination of Persistent Toxic Substances in the Great Lakes Basin*.

The strategy provides a framework for actions to reduce or eliminate PBTs from the Great Lakes Basin. Although based primarily on voluntary pollution prevention activities, it also builds on existing Canadian and U.S. regulatory programs. Among the U.S. milestones, the Strategy calls for a 50 percent reduction of mercury uses nationally; a 90 percent reduction nationally of high-level PCBs used in electrical equipment; a 75 percent reduction in total releases of dioxins and furans from such sources as incinerators; and, confirmation that there are no releases of five bioaccumulative pesticides: chlordane, aldrin/dieldrin, DDT, mirex, and toxaphene.

On March 23, 1998, Region 5, GLNPO, and Environment Canada hosted a meeting on the strategy in Chicago, with over 100 stakeholders attending. Chemical specific workgroups began reviewing and discussing background information, existing regulations and programs, and options to achieve reductions for the specific chemicals. The workgroups included representatives of EPA, Environment Canada, industry, states and local governments, and environmentalists. Follow-up actions were identified for each substance or group of substances. The chemical specific workgroups met again in November 1998 and April 1999 to evaluate source and inventory information and options to achieve further reductions.

For mercury, three specific partnerships with industry were established. The Chlorine Institute, on behalf of mercury cell chlor-alkali producers, committed to reducing mercury use 50 percent by 2005; the American Hospital Association signed a memorandum of understanding to virtually eliminate mercury containing waste from the health care industry waste stream by 2005; and three northwest Indiana steel mills signed a mercury reduction agreement.

For pesticides, a report was drafted to confirm that chlordane, aldrin/dieldrin, DDT, mirex, and toxaphene are no longer used or released from sources that enter the Great Lakes Basin. Although all uses of these pesticides have been canceled, and all but chlordane have not been in production in the United States for many years, there is still a potential for releases to the Great Lakes from remaining stockpiles or reservoirs, or from production and use internationally. The workgroup recommended continued monitoring, remediation of Superfund sites, and waste pesticide collections. For further information, see the website at [www.epa.gov/bns/](http://www.epa.gov/bns/) or contact Tony Martig, (312) 353-2291.

## Mercury

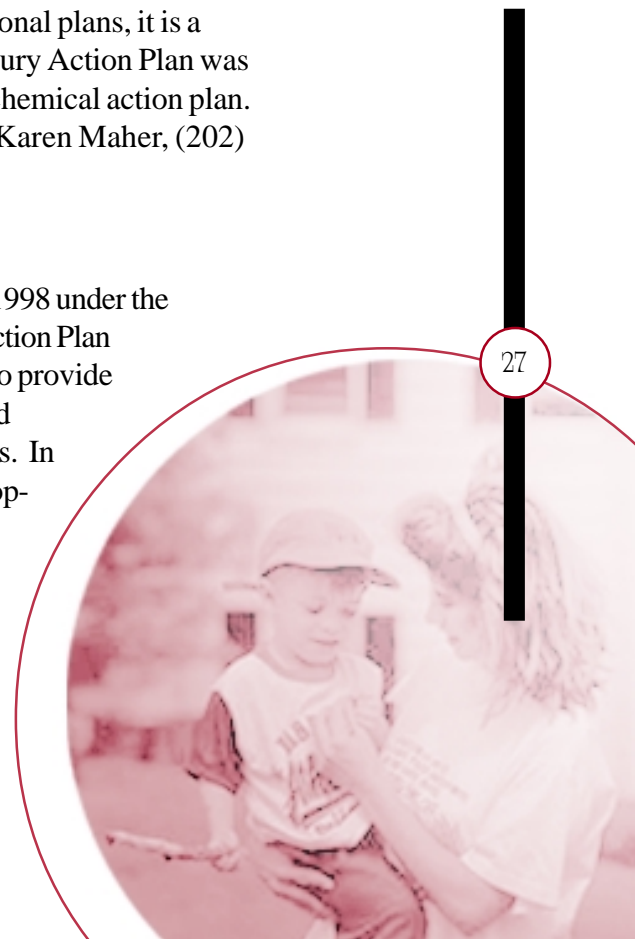
Mercury, a naturally occurring metal, enters the environment from sources like coal-fired power plants, mining and smelting various ores, and the disposal of consumer products manufactured with it. Because it is a PBT pollutant, the amount of mercury in the biosphere has been increasing since the beginning of the industrial age. In fact, 870 pounds of mercury is added to the atmosphere in this country each day from human sources.

Mercury is a known neurotoxin that slows fetal and child development and causes irreversible deficits in brain function. Tens of thousands of babies are born each year after being exposed in the womb to levels of mercury at which some studies have shown adverse health effects.

EPA established the Mercury Task Force so that programs throughout the Agency could share information and promote mercury risk management actions. Over the last year, the forum developed the draft *EPA Action for Mercury* to identify and reduce risks from exposure to mercury using a multimedia approach. The first in a series of national plans, it is a part of EPA's Multimedia Strategy for Priority PBT Pollutants. The Mercury Action Plan was released in late 1998 with the PBT Initiative Strategy as an example of a chemical action plan. For more information, visit the website at [www.epa.gov/pbt](http://www.epa.gov/pbt) or contact Karen Maher, (202) 260-3894.

## International Mercury Activities

OPPT assisted with developing and implementing three workshops in FY 1998 under the Commission for Environmental Cooperation's North American Regional Action Plan (NARAP) for Mercury. The overall objective of the Mercury NARAP is to provide long-term, common, and clear directions for the United States, Canada, and Mexico to prevent or minimize releases of mercury from man-made sources. In February, in Zacatecas, Mexico, participants initiated the process of developing a national Mexican monitoring plan for cost-effective sampling and analysis of mercury. In September, the Partnerships/Voluntary Initiatives Workshop, in Mexico City, established tri-national partnerships and voluntary initiatives designed to promote pollution prevention (reducing mercury use and release) through "best practices." The third workshop, at EPA's National Exposure Research Laboratory Characterization Research Division in Las Vegas provided a forum for mercury experts to recommend ways to reduce and prevent mercury releases; identify



scientific and technological uncertainties; identify research needs; and, develop a strategy outline for a tri-national North American mercury baseline. For more information, contact Greg Susanke, (202) 260-3547.

## Polychlorinated Biphenyls (PCBs) Activities

Polychlorinated biphenyls (PCBs) are a family of synthetic organic chemicals manufactured worldwide and used in thousands of products and processes where non-flammability, stability to heat, or effectiveness as a plasticizer are required. PCBs bioaccumulate and they have been classified by EPA and other organizations as probable human carcinogens with other significant ecological and human effects. An estimated 1.4 billion pounds of PCBs manufactured in the United States have found their way into thousands of products.

TSCA Section 6(e) bans the manufacture, processing, distribution in commerce, and use of PCBs but provides for exceptions for uses and one-year exemptions from the bans on manufacture, processing, and distribution in commerce. TSCA also requires that PCBs be marked and mandates control over their disposal.

More than 50 permits to dispose of PCBs were issued, renewed, modified or processed in FY 1998-99. PCB Disposal Amendments, promulgated in June 1998, represented the first comprehensive review and overhaul of the PCB regulatory program in 20 years. The rule reduces the permitting burden and provides for flexibility in sampling, cleanup, storage, and disposal of certain PCB wastes. These changes are estimated to save the regulated communities approximately \$ 750 million annually, while still providing the same level of protection to human health and the environment.

In FY 1998-99, OPPT continued to develop several other regulations including the Transformer Reclassification Rule, two rules addressing petitions filed to request exemptions from certain statutory bans, and a rule authorizing the continued use and distribution in commerce of certain non-liquid PCBs.

The PCB program continues to be involved in several major efforts with other federal agencies. These include issuing an intergovernmental report on the scrapping of ships at both domestic and foreign facilities, reviewing of data that may lead to the development of procedures for identifying PCBs in products (e.g., paints, coatings, plastics) and the resolution of technical and legal issues surrounding the use of ships as artificial reefs. For more information, contact Tony Baney, (202) 260-3933.

EPA's Region 5 and Office of Enforcement and Compliance Assurance developed a proposal to promote the early voluntary phasedown of PCB-using transformers, voltage regulators, and large capacitors in Region 5. As part of the proposal, a company would commit to remove and dispose its PCB equipment and self-disclose violations detected during the phasedown period. After completion of the phasedown period, the Region could use a specific policy to determine the final amount of any civil penalty. The policy includes penalty reductions for companies that complete their PCB phasedown program. The program is intended to be implemented as a pilot project with utilities in the region. If successful, it is intended to be offered to other industries. A Region 5 study has found that the utilities are finding PCB transformers through testing programs, are continuing to phasedown PCB transformers, and have reduced their PCB capacitors by over 27 percent since 1994. For more information, contact Tony Martig, (312) 353-2291.



## Fibers

### Asbestos

EPA is working with the states to develop amendments to the Asbestos Hazard Emergency Response Act (AHERA) Regulations, the Asbestos Model Accreditation Plan (MAP), and the Asbestos Worker Protection Rule. These amendments will increase consistency with the 1994 OSHA Construction Standard for Asbestos, provide states with additional flexibility in designing and implementing their own asbestos training and accreditation programs, and clarify the obligations of asbestos abatement contractors, asbestos training course providers, and other members of the regulated community. In April 1998, EPA, 36 states, and the Navaho Tribe met to discuss asbestos issues, including state program administration, modular training concepts, and enforcement. For more information, contact Cindy Fraleigh, (202) 260-1537.

### In the Regions

Region 5 joined forces with its six states in April 1999 to form the Mid-West Regional Environmental Consortium to coordinate and sustain asbestos control efforts throughout the region. The six states—Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin—along with the region entered into a formal Memorandum of Agreement (MOA) to share information and pool expertise in approaching and resolving multi-state and region-wide asbestos regulatory issues. The consortium will also focus on reciprocity and the establishment of consistent procedures for improving the quality of asbestos training and licensing activities as well as help plan the next National Asbestos Meeting, hosted by the Illinois Department of Public Health and tentatively scheduled for April 2000 in Chicago. For more information, contact Phil King, (312) 353-9062.

### Refractory Ceramic Fibers

Refractory ceramic fibers (RCFs), identified as a probable human carcinogen, are used in a variety of industrial insulation settings, including the lining of high temperature furnaces, heaters, and kilns. For the past five years, the RCF Coalition has been providing EPA with worker exposure monitoring data collected pursuant to a TSCA Section 4 Consent Agreement. In FY 1998, EPA received the final set of data due under the agreement. Reductions in worker exposures were most pronounced in coalition customer facilities, which may be due to the coalition's program that included outreach materials and facility visits by an industrial hygienist to suggest opportunities for reductions. The coalition is interested in entering into a voluntary agreement with EPA, National Institute for Occupational Safety and Health, and the Occupational Safety and Health Administration to continue monitoring exposures, conducting toxicological and epidemiological research, providing customers and employees with product information and training, and furnishing exposed workers with personal protection equipment. For more information, contact Sam Brown, (202) 260-2282 or Cindy Fraleigh, (202) 260-1537.

### Acute Exposure Guidelines

The 32-member National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances brings together public and private sector scientists to develop short-term exposure limits for acutely toxic chemicals. Its goal is to establish scientifically credible acute exposure guideline levels (AEGs) for 300 to 400 chemicals at the rate of 30 to 40 chemicals per year. AEGs are used when responding to accidental releases of acutely toxic chemicals in the workplace, along transportation routes, and in local communities.



In FY 1998, during its second year of operation, the committee developed approximately 190 proposed AEGL values for 18 hazardous substances. Also, the committee published approximately 130 AEGL values for 12 hazardous substances in the *Federal Register* on October 30, 1997, for public review and comment. Following receipt of public comment and appropriate consideration, the committee reached consensus to elevate 10 of these chemicals and approximately 110 AEGL values to “Interim” status.

During FY 1998, a subcommittee of the National Research Council of the National Academy of Sciences was formed to review the chemicals in Interim status for future publication as “Final” AEGLs.

Efforts to explore the international participation by member countries of the Organization for Economic Cooperation and Development have continued. At present, the majority of the member countries support adoption of the AEGL values for international applications. For more information, contact Roger Garrett, (202) 260-4302 or Paul Tobin, (202) 260-1736.

# Public Understanding of Risks

## Toxics Release Inventory

EPA's Toxics Release Inventory (TRI), established by the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), promotes planning for chemical emergencies and assures the public's right to know about toxic and hazardous chemicals in their communities by requiring certain facilities to report their chemical releases. In 1990, Congress passed the Pollution Prevention Act, which required facilities to report to TRI their pollution prevention activities, including recycling and source reduction. TRI provides this information to the public on releases and other waste management activities of more than 600 chemicals and chemical categories from certain industry sectors. With this information, communities know what toxic chemicals are present in their neighborhoods, facility managers can identify opportunities for source reduction, and facilities can compare their progress to other facilities across the country.

Under the TRI program, facilities report information annually to EPA and the state in which they are located. The information includes amounts of each listed chemical released to the environment from the facility; amounts of each chemical shipped off site for recycling; energy recovery, treatment or disposal; amounts of each chemical recycled, burned for energy recovery, or treated at the facility; and, maximum amounts of the chemical present at the facility during the year. EPA has developed numerous publications and resources for easy access to TRI data.

TRI has undergone a series of expansions, beginning in 1994, with a doubling of the number of chemicals on the TRI list for which reporting is required. In 1997, seven more industry sectors were required to report releases to TRI. OPPT is working on adding certain persistent, bioaccumulating toxic (PBT) chemicals, including lead, to TRI and lowering reporting thresholds for PBTs. These proposed rules were published in FY 1999. (See also the PBT Initiative in the Risk Reduction chapter.)

The TRI Program is being moved from OPPT to the newly established Office of Environmental Information in EPA. This office will support the Agency's mission of protecting public health and the environment by integrating quality environmental information to make it useful for informing decisions, improving information management, documenting performance, and measuring success. It is anticipated that a process will be developed for stakeholder consultation to assist this new office with addressing a broad range of information-related issues, including TRI concerns.

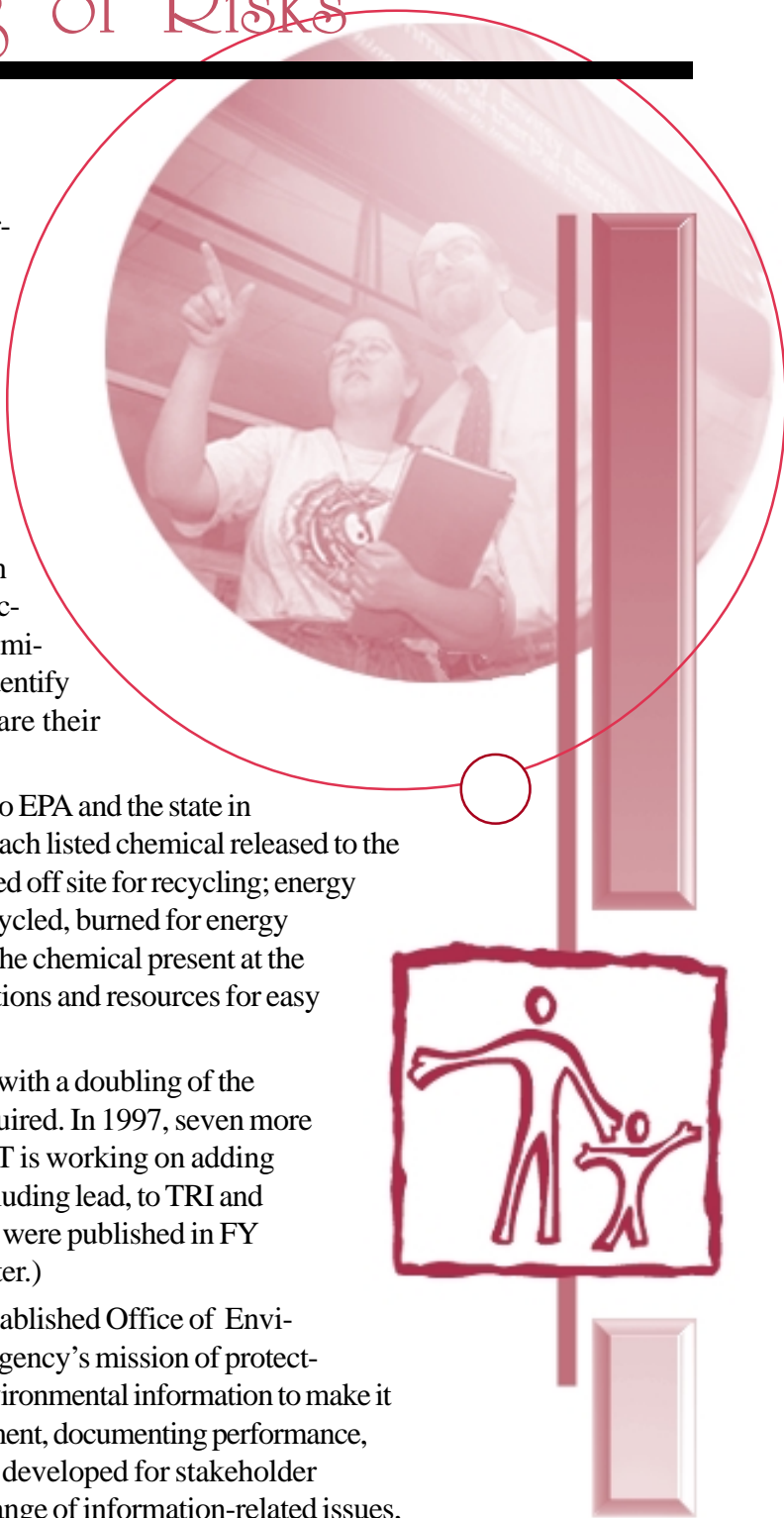
## 1996 and 1997 Data Release Reports

Each year, EPA prepares a data release report that summarizes the TRI data for the current and previous years. In FY1998, the report was significantly expanded from previous years to include analyses of TRI data for

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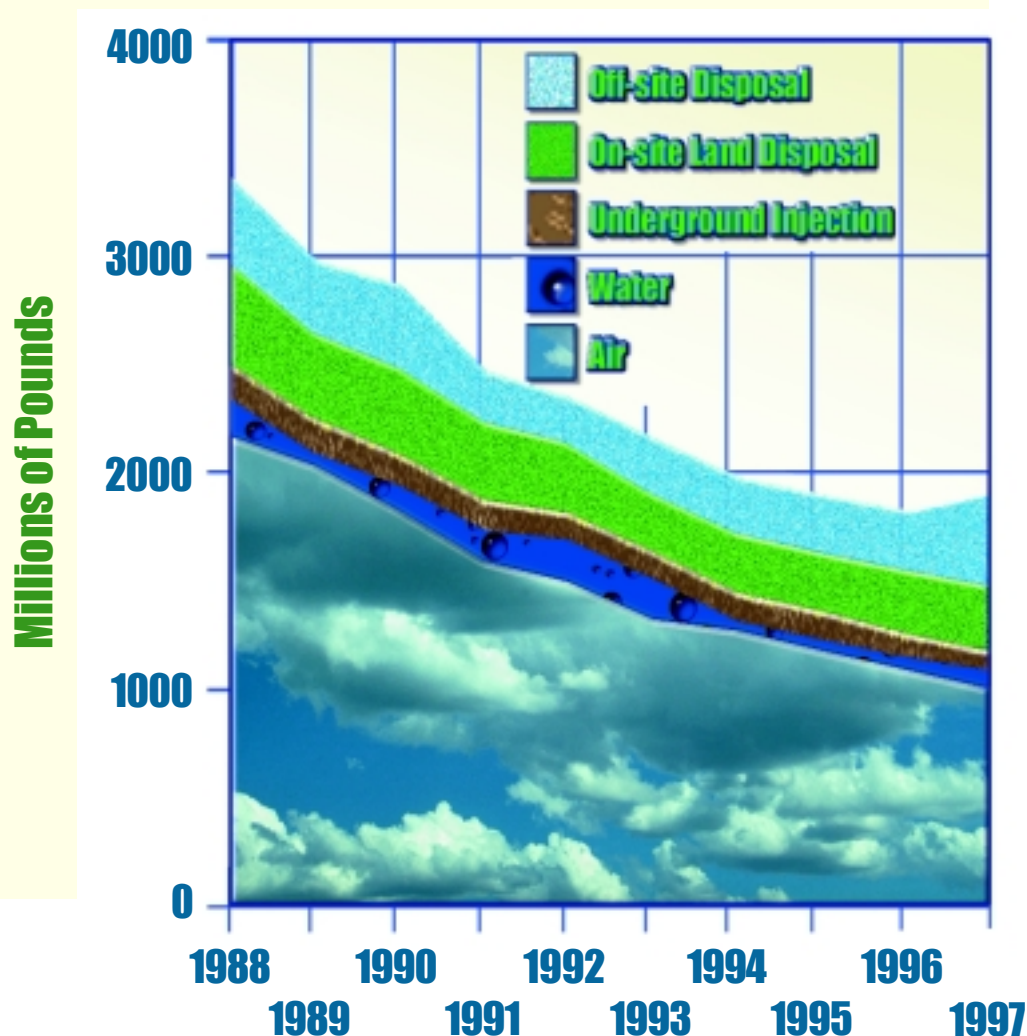
*OPPT works to provide understandable, accessible, and complete information on chemical risks to the broadest audience possible. By promoting public understanding, OPPT supports better public decisions about how to protect human health and the environment.*

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## Community Right-to-Know

Changes in Total Releases, 1988-1997



each of the 20 industry sectors covered by the current reporting requirements. Because this required much additional analysis, OPPT prepared the data release report in two stages. In the first stage, OPPT prepared the national-level analysis of the 1996 TRI data and data analyses for each of five industry sectors. This report was issued in June 1998. In the second stage, OPPT prepared analyses of the remaining 15 industry sectors that report to the TRI. This report was released January 1999.

The 1997 TRI Public Data Release focuses on TRI data at the national level for calendar year 1997. For comparison purposes, this report also provides basic data for the preceding year (1996), for the new baseline year (1995), for the period since the Pollution Prevention Act mandated collection of waste management data (1991), and for the original baseline year (1988). This report was released in May 1999. For more information, contact Michelle Price, (202) 260-3372.

### 1996 TRI Data

For 1996, 21,626 facilities filed 71,381 TRI reporting forms. These facilities reported on- and off-site releases of 2.43 billion pounds of toxic chemicals, a decrease of about 97 million pounds



from 1995. This continues a downward trend in total releases of toxic chemicals since 1988. Releases decreased about 46 percent between 1988 and 1996.

Air emissions for 1996 totaled 1.45 billion pounds, or almost 60 percent of all releases in 1996.

Emissions to water totaled about 173 million pounds, or about 7 percent of all releases. Emissions to land on-site accounted for about 13 percent of releases, and transfers off-site for disposal accounted for about 12 percent of all releases.

Total quantities of reported production-related wastes have remained roughly constant since 1991, when collection of waste management data began. Looking only at chemicals that have been reported since 1991, total production-related wastes increased slightly between 1995 and 1996, from 22.6 billion pounds in 1995 to 23.4 billion pounds in 1996. This includes the toxic chemicals that were recycled, burned for energy recovery, treated, or released as described above. For more information, contact Michelle Price, (202) 260-3372.

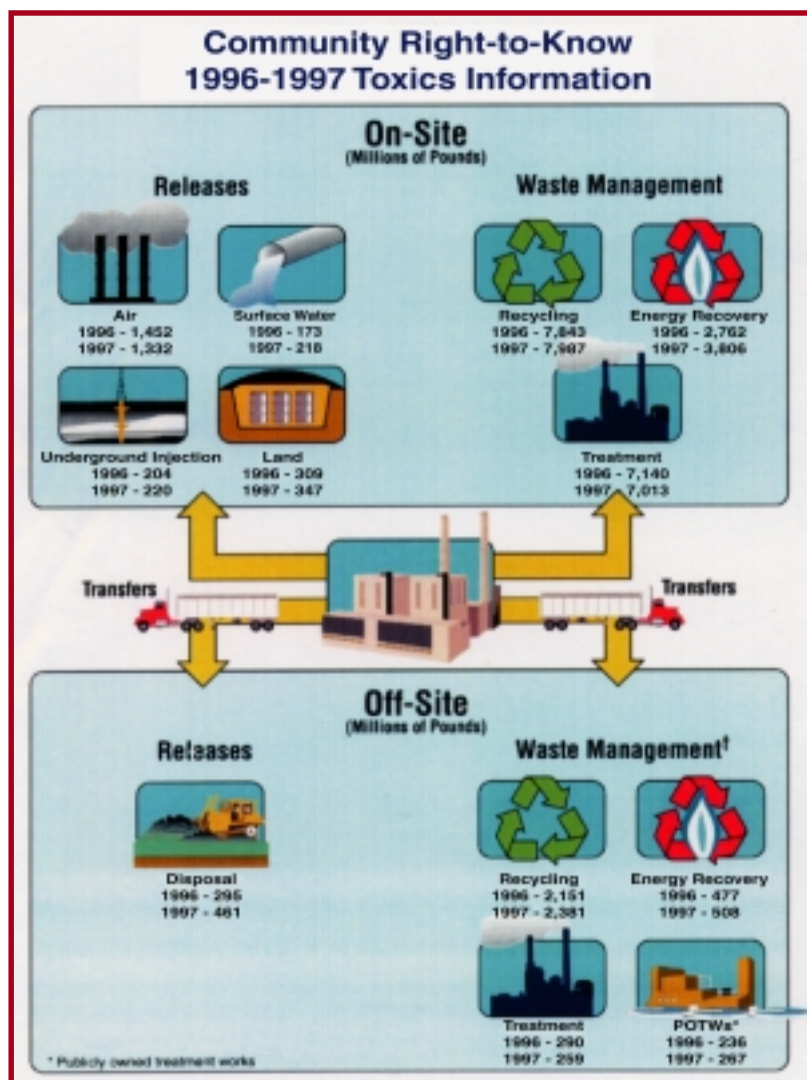
## 1997 TRI Data

For 1997, 21,490 facilities filed 71,670 TRI reporting forms.

These facilities reported on- and off-site releases of 2.58 billion pounds of toxic chemicals, an increase of 56.1 million pounds from 1996. This increase appears to be due to a number of facilities shifting from the recycling to disposal of metals. Despite this slight increase, EPA does believe that there will continue to be decreases in environmental releases over the long term. Releases decreased about 43 percent between 1988 and 1997.

Air emissions for 1997 totaled 1.33 billion pounds, or almost 52 percent of all releases in 1997. Emissions to water totaled 218.4 million pounds, or 8.5 percent of all releases. Emissions to land on-site accounted for 13.5 percent of releases, and transfers off-site for disposal accounted for about 18 percent of all releases. Underground injection accounted for 8.5 percent of all releases.

Total quantities of reported production-related wastes increased 8.3 percent or 1.54 billion pounds (after three facility revisions are consid-



ered) from 18.44 billion pounds in 1991 to 19.98 billion pounds in 1997. This includes the toxic chemicals that were recycled, burned for energy recovery, treated, or released as described above. The net increase from 1991 to 1997 appears to be driven by an increase in recycling (increase of 18.3 percent) and treatment (increase of 20.4 percent). For more information, contact Michelle Price, (202) 260-3372.

## Training, Guidance, and Stakeholder Outreach

In 1997, EPA issued a final rule requiring approximately 6,100 facilities in seven additional industry sectors to begin TRI reporting. These newly added industry sectors were required to submit their first TRI reports by July 1, 1999. During FY 1998-99, OPPT developed guidance for the seven new industries and conducted 20 workshops for the newly added industries on how to comply with their reporting obligations. OPPT also updated the reporting guidance for the “old” industries and conducted over 20 general training sessions around the country during Spring 1998. In FY 1999, OPPT continued its industry outreach efforts by conducting 22 general and focused training workshops and updated its guidance for industries subject to TRI reporting requirements.

Following the industry expansion rule, EPA committed to conducting an intensive dialogue with stakeholders regarding ways to improve TRI reporting and to reduce the burden of reporting. As part of that commitment, OPPT formed an advisory committee under the National Advisory Council on Environmental Policy and Technology (NACEPT) to advise the Agency on those issues. The committee met eight times between September 1997 and October 1998 and submitted a report to the Agency in May 1999. The committee report summarizes its work and recommendations in three areas: burden reduction, revisions to Form R, and data release. The Agency also held seven public meetings around the country in late 1997 and 1998 to obtain public comment on these same issues. For more information, access the website at [www.epa.gov/opptintr/tri](http://www.epa.gov/opptintr/tri) or contact Amy Newman, (202) 260-1846.

## Proposed Rule for TRI Reporting of Persistent Bioaccumulative Toxic Chemicals

To implement the third component of Vice President Gore’s Chemical Right-to-Know Initiative (see the Safer Chemicals chapter), OPPT developed a proposed rule to modify and expand current TRI reporting requirements for PBT chemicals. (See also the PBT Initiative in the Risk Reduction chapter.) This proposed rule is intended to lower the TRI reporting thresholds for PBT chemicals and to add certain other PBT chemicals to the EPCRA Section 313 list of toxic chemicals. Currently, facilities that manufacture or process less than 25,000 pounds or otherwise use less than 10,000 pounds of a listed chemical in a given year do not need to report their chemical releases under TRI. Lowering these thresholds for PBTs will assure that we get reporting on almost all releases of these chemicals. These PBT chemicals are of particular concern not only because they are toxic but because they remain in the environment for long periods of time, are not readily destroyed, and build up or accumulate in body tissue. Relatively small releases of PBT chemicals can pose human and environmental health threats. These chemicals warrant recognition by communities as potential health threats and as such need to be captured by the TRI Right-to-Know Program.

The existing reporting thresholds do not adequately ensure that the public has access to information about the quantities of the PBT chemicals that enter their communities from local industrial facilities. Facilities that manufacture, process and/or use PBT chemicals are not reporting many of the releases and other waste management associated with these chemicals. By lowering the

existing thresholds, EPA believes the public will have access to basic environmental data about PBT chemicals. The proposed rule was published in January 1999. All comments are being reviewed and the final rule is expected in the first quarter of FY 2000. For more information, contact Dan Bushman, (202) 260-3882.

## Lower Threshold Proposed for Lead TRI Reporting

In a proposed rule published in August 1999, EPA is proposing to lower the threshold for reporting of lead releases to TRI. Lead remains in the environment for long periods of time and is toxic to humans, especially to children. Children and developing fetuses are known to absorb lead more readily than adults, and once in the body, lead is distributed to the blood, bone, and soft tissue. Children exposed to lead can suffer from damage to the brain and central nervous system, slow growth, hyperactivity, and behavior and learning problems. Adults exposed to lead can suffer difficulties during pregnancy, high blood pressure, nervous disorders, and memory concentration problems.

Currently, facilities are not required to report their lead and lead compound releases to the air, water, and land unless they manufacture or process more than 25,000 pounds annually or use more than 10,000 pounds annually. These high thresholds severely limit the reporting of lead and lead compounds. Under the proposed rule, the reporting thresholds would be lowered to 10 pounds per facility per year and substantially increase the amount of information made available to the public through TRI by about 13 percent, or 15,000 reports. The comment period for the proposed rule extends through the first quarter of FY 2000. For more information, contact Dan Bushman, (202) 260-3882.

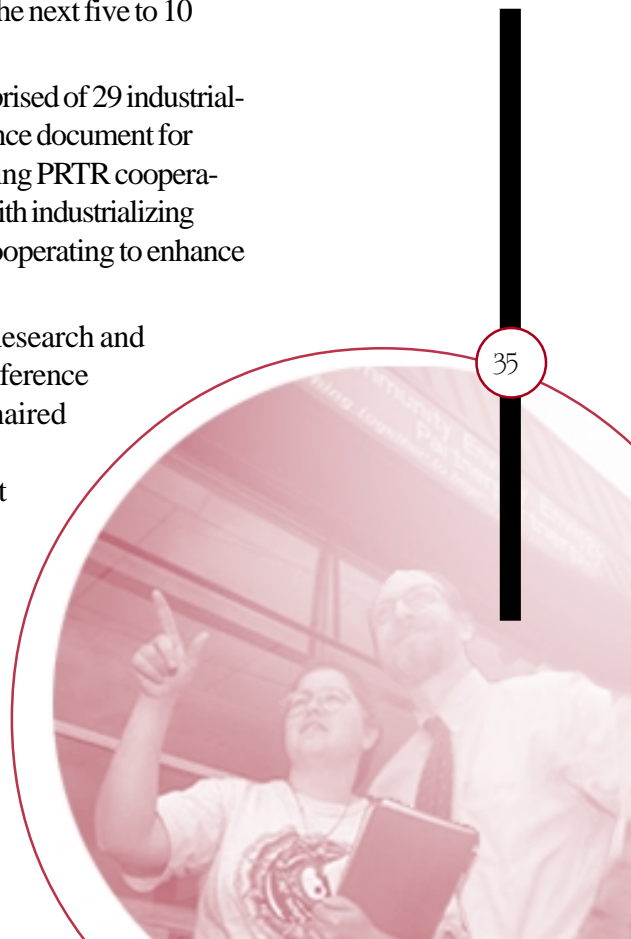
## Pollutant Release and Transfer Registers

Pollutant Release and Transfer Register (PRTR) is the term used worldwide for systems similar to TRI. When the United States initiated TRI in 1987, there were only two PRTR systems in the world. Today, there are seven, with many more in development. It is expected that in the next five to 10 years, over 40 countries will have PRTR systems.

The Organization for Economic Cooperation and Development (OECD), comprised of 29 industrialized countries in Asia-Pacific, Europe, and North America, has created a guidance document for nations to use when developing PRTR systems. An OECD program is promoting PRTR cooperation among member nations. United Nations organizations have been working with industrializing nations to design PRTR systems. Canada, Mexico, and the United States are cooperating to enhance the ability to compare and aggregate PRTR data across all three countries.

In September 1998, OECD, the United Nations Institute for Training and Research and the United Nations Environment Programme conducted an international conference on PRTRs in Tokyo, Japan. OPPT represented the United States and co-chaired the conference with Japan. In addition to showcasing the progress on the Japanese PRTR, the conference highlighted the needs for public involvement and access, the importance of a centralized national PRTR database, and the role of facility-specific and mandatory reporting. The conference's final communiqué encouraged OECD, in its survey of national PRTR systems, to highlight the aspects of those systems that countries identified as important.

The results from the Japanese conference, the OECD survey, and decisions by the PRTR Coordination Group (a group that promotes international cooperation on PRTRs) will be discussed at an international confer-





## The TRI Information Kit

The TRI Information Kit, which explains what TRI is, how it can help communities, and how to access the data electronically, is available from the National Center for Environmental Publications and Information (NCEPI) by calling (800) 490-9198, reference document number EPA-749-K-98-001.

ence on chemicals management in October 2000. This meeting, to be held in Brazil, will take steps to promote the chemicals issues identified by the Earth Summit in advance of its tenth anniversary in 2002. A special session on PRTRs will be held at the meeting that will focus on the role of PRTRs in improving the ability of nations to manage chemicals. For more information, contact John Harmon, (202) 260-6395.

## In the Regions

During FY 1998, Region 2 was invited by the Korean Institute of Chemical Engineers to present information on how the TRI program was implemented in the United States and how TRI has been used by the government, industry, and the general public to reduce pollution and identify areas of health and environmental concerns. The region also gave a presentation in Mexico to assist the development of the Mexican PRTR and hosted a one-day TRI and Pollution Prevention presentation for a Slovak delegation that was exploring the possibility to implement such a program in their country. For more information, contact Nora Lopez, (732) 906-6890.

Region 5 conducted 20 compliance assistance workshops for industry during FY 1998-99. Some were conducted at the request of and in partnership with trade associations. TRI provides communities with data so they can make informed decisions regarding environmental concerns in their communities. However, communities must be aware of the data, know how to access it, and understand the data so they can make use of it. Region 5 conducted 12 community TRI outreach activities for teachers, students, and children during FY 1998 and 29 in FY 1999. For more information, contact Thelma Codina, (312) 886-6219.

Region 9 has developed a brochure, *A Citizen's Guide to Reducing Toxic Risks*, that gives step-by-step instructions on accessing TRI data through the Internet, lists community resources to help analyse the data, and provides concrete examples of how TRI data has been used by community and environmental groups in California and Arizona. The brochure was distributed to over 1,000 community groups, state and local agencies, tribal organizations, and pollution prevention offices and is available from the regional office at (415) 744-1109.

To promote collaboration between community groups experienced in using TRI data and groups with less experience or less access to computer resources, the region funded Communities for a Better Environment, a local environmental group with substantial experience using TRI data, to hold three workshops in the Los Angeles metropolitan area. Workshop attendees were given hands-on computer experience as they explored what facilities are located in their neighborhoods, which toxic pollutants are being released to the air, water, and ground, and how to evaluate the risks associated with these releases. For more information, contact Patty Monahan, (415) 744-1109.

## TRI Education Product

In FY 1998, OPPT developed teaching materials for junior and senior high school students on TRI through a grant with the National Science Teachers Association. The materials, developed by science and social studies teachers, introduce and encourage the use of large databases as an education tool in the classroom. OPPT sponsored this effort to provide a greater understanding of the usefulness of TRI data and to help make environmental information in general more relevant for educational purposes. The materials include the following:

*TRI CD-ROM and Users' Manual*—provides information that points the way to potential exposures and hazards in our communities.



*The Toxics Release Inventory Teachers Guide*—an activity book that brings real-world data into the classroom and gives students a solid understanding of the scientific concepts related to toxic releases.

*Getting Started*—a road map of suggestions and ideas for how to introduce environmental education in the classroom.

*EPA's Guide to Environmental Issues*—general background information on the environment, including definitions, a discussion of environmental programs, common questions, and government resources.

*Database Basics*—specific tools for working with data that can be used to support activities requiring the use and understanding of the TRI database.

For more information, contact Georgianne McDonald, (202) 260-4182.

## Risk-Screening Environmental Indicators Model

OPPT has developed a multimedia environmental indicators model, the Risk-Screening Environmental Indicators (RSEI) model, to investigate the risk-related aspects of toxic chemical releases in the United States. The model currently provides a measure of the impacts of TRI Chemicals on the general population. This screening-level tool presents a risk-related perspective, as well as a hazard-based perspective, of trends in environmental well-being as a function of chronic human health. The flexibility of the indicators model provides users with the opportunity to examine trends, to rank and prioritize chemicals for strategic planning, to conduct risk-related targeting for enforcement and compliance purposes, to perform disparate impact evaluations, and to support community-based environmental protection projects.

The Indicators have been under development since 1991 as an OPPT strategy responsive to the 1990 EPA Science Advisory Board (SAB) recommendations. The methodology was reviewed by the SAB in 1997 and has been modified to reflect comments the Agency has received. Many potential applications of this screening-level tool are now being explored within OPPT and with outside collaborators (including states, regions and academicians).

The beta-tested, air-only version of the Indicator model was released July 1999 under several Freedom of Information Act requests. The Indicator model is designed to run on a PC using Microsoft Windows and is available on CD-ROM from the TSCA Assistance Information Service, (202) 554-1404 or [Tsc-hotline@epa.gov](mailto:Tsc-hotline@epa.gov). For more information, see the website at [www.epa.gov/opptintr/env\\_ind/index.html](http://www.epa.gov/opptintr/env_ind/index.html) or contact Nicolaas W. Bouwes, (202) 260-1622 or Steven M. Hassur, (202) 260-1735.

## Environmental Monitoring for Public Access and Community Tracking

OPPT is contributing to a new Agency program for working with communities to collect, manage, and present environmental information. The program, Environmental Monitoring for Public Access and Community Tracking (EMPACT), administered primarily by the Agency's Office of Environmental Information, aims to provide timely, accurate, and understandable environmental information available to millions of people in the largest metropolitan areas across the country so that communities and individuals can make informed decisions about their local environments. EMPACT is a four-year program designed to make Right-to-Know a keystone of U.S. environmental protection.



In FY1998, OPPT developed an EMPACT project to improve tools for risk assessment, air toxics screening, and risk communication using two OPPT tools—the risk-screening methodology used in the Baltimore Community Partnership and the Environmental Indicators Model described above. In collaboration with Regions 1 and 7, communities in St. Louis, Missouri, and Lawrence, Massachusetts, are now using the Baltimore methodology to collect and interpret data on their local air quality. Based on these experiences, OPPT will further refine the methodology and make it available for use in other cities. For more information, contact Hank Topper, (202) 260-1540.

## Region 5 Environmental Actions for Children's Health Initiative

In FY 1998, Region 5 launched its children's health initiative by establishing a multidisciplinary and multimedia workgroup under the direct sponsorship of the Deputy Regional Administrator. The group, known as Region 5 Environmental Actions for Children's Health (REACH), is promoting greater protection of children's health through environmental management activities. To date, REACH has sponsored a number of workshops:

- "Children at Risk Conference: Environmental Health Issues in the Great Lakes Region," was held in partnership with the Agency for Toxic Substances & Disease Registry (ATSDR) and convened during July 1998 in Chicago.
- The Environmental Watch (Workshop on Actions to Take for Children's Health), held in June 1999 in partnership with ATSDR and the U.S. Department of Health and Human Services (HHS), was aimed at developing community-based approaches to promoting children's health issues.

The workgroup also established a link with the Federal Interagency Task Force on Children's Health Outreach, launched a monthly educational seminar series on varying topics concerning children's health, posted an Internet website, and created a regionwide database of all reported cases of elevated blood lead in children along with a corresponding set of statewide geographic information system maps showing their geographic distribution. Work has begun on a scientific literature review in an effort to identify and prioritize environmental health risks to children that may be of greatest concern to this unique part of the country. For more information, contact Phil King, (312) 353-9062.

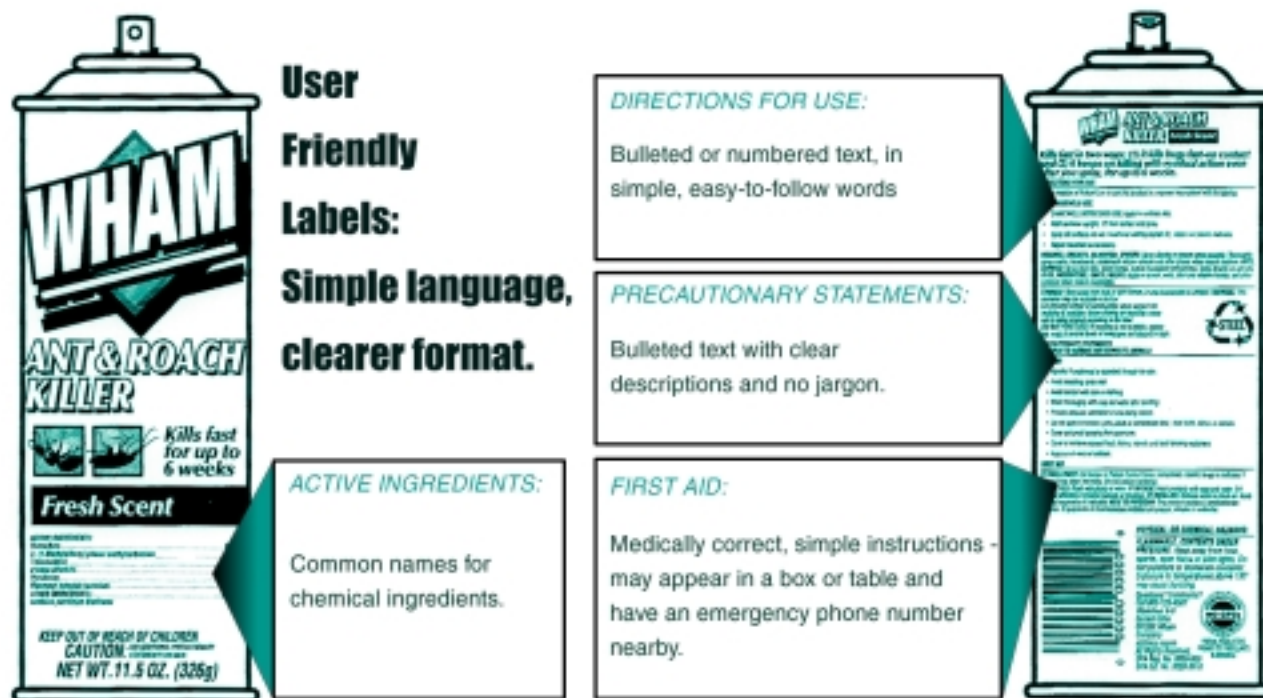
## Chicago Cumulative Risk Initiative

OPPT contributes to a cooperative effort to address cumulative exposure, hazard, and risk issues affecting residents of Cook County, Illinois, and Lake County, Indiana. The effort, called the Chicago Cumulative Risk Initiative (CCRI), has its origins in a 1996 petition from 11 community advocacy groups requesting that EPA regulate air deposits of dioxins, furans, mercury, cadmium, and lead from incinerators in the two counties. Members of CCRI include EPA Region 5, the Office of Research and Development, the Office of Air and Radiation, the Office of Environmental Justice, Indiana and Illinois officials, and 11 Chicago-area advocacy groups.

CCRI is developing a cumulative "environmental loading profile" to catalog the source and nature of toxic emissions; a PC-based program to analyze emissions and ambient data from the study area; a cumulative risk analysis of the significant environmental hazards, their sources and exposure pathways, risks of various health effects from multiple exposure sources and pathways, and locations and other characteristics defining sensitive populations; and, pollution prevention and remediation activities. For more information, contact Phyllis Reed, (312) 886-6018.

## Consumer Labeling Initiative

EPA introduced The Consumer Labeling Initiative (CLI) in March 1996 to foster pollution prevention, empower consumer choice, and improve consumer understanding of safe use, environmental, and health information on household consumer product labels. By making essential information on labels easier to use, consumers will be better able to make informed choices among products and to use those products safely. The CLI is a voluntary, cooperative effort involving EPA, other federal and state agencies, industry trade associations, consumer product manufacturers, and other interested groups. Begun as a multi-phased pilot project, the CLI focuses on indoor insecticides, outdoor pesticides, and household antimicrobial and hard surface cleaning products.



Label changes have already appeared on many consumer pesticide products as a result of CLI research and recommendations arising from Phase I of the project. These changes include the use of common names rather than complex chemical names for active ingredients, the label heading “First Aid” in place of the old heading “Statement of Practical Treatment,” the elimination of the misleading term “inert” from ingredients listings, and inclusion of toll-free telephone numbers for information. Simplified, medically correct first aid instructions will be added soon.

In FY 1998, Phase II of the CLI involved consumers across the country in two major research studies. This research established a baseline of current consumer behavior, including what information consumers read on labels, when they consult it, and what portions of labels they find difficult to locate or comprehend. The research also tested alternative label language and formats to determine whether they would help consumers. In addition, Phase II activities included analytical policy work on ingredient identification and the development of storage and disposal language that is consistent with local trash, household hazardous waste, and recycling programs. A consumer education program also began with a nationwide campaign to “Read the Label First!”

The CLI is linked closely with other EPA programs on pesticide labeling, risk and hazard communication activities, all environmental labeling policy activities and programs, pollution prevention, trade and environment activities, and environmentally preferable procurement. For more information, contact Mary Dominiak, (202) 260-7768.

## OPPT Tribal Program

OPPT has made significant progress in building an effective partnership with Indian tribes to protect and safeguard the environment on native lands. In FY 1998-99, OPPT implemented a tribal program to improve communications with the tribes. OPPT published a package of information about OPPT programs with staff contacts, Internet access, grants information, and a quarterly tribal newsletter. During FY 1999, the newsletter combined news about EPA's tribal program with the news of tribal activities to encourage the exchange of information between the tribes and EPA.

In addition, OPPT funded tribal activities through the Pollution Prevention Incentives for States and Environmental Justice grants as well as the lead program outreach and accreditation and certification grants. The approximate total of funding awarded to tribes through these programs in FY 1998 was \$2.9 million. Approximately \$3.5 million has been set aside in FY 1999 for tribal grants in these programs.

In FY 1998-99, OPPT developed and presented a training session for Agency managers entitled "Working Effectively with Tribal Governments," which introduced managers to tribal culture, history, and the issues inherent in implementing EPA's Indian program. For more information, contact Mary Lauterbach, (202) 260-9563.

## Forum of State and Tribal Toxics Action (FOSTTA)

The Forum of State and Tribal Toxics Action (FOSTTA) is a mechanism for states and tribal environmental and health officials to provide EPA with valuable expertise from the community perspective. FOSTTA representatives participate in the following activities: the Chemical Management Project; the Lead Project; the Pollution Prevention Project; the Tribal Affairs Work Group; and, the TRI Project. For more information, contact Darlene Harrod, (202) 260-6904.

## OPPT's Small Business Outreach Framework

OPPT has developed the Small Business Outreach Framework, a comprehensive approach to communicating with small businesses specifically on toxics issues. The Framework contains the following components:

- Analyze impacts of EPA's regulatory proposals on small entities.
- Involve small entity stakeholders.
- Mitigate negative impacts on small entities.
- Ensure that the GPRA performance measures include small business needs.
- Develop an interactive outreach program on OPPT's home page.
- Establish a small business e-mail and subdirectory database.
- Establish a small business ombudsman to answer questions from small businesses on issues pertaining to OPPT.
- Convene regular meetings with the small business community to discuss OPPT issues that impact them.
- Schedule visits to small businesses to better understand their concerns.

For more information, contact Phil Robinson, (202) 260-3910.



# Pollution Prevention

## Pollution Prevention in the Health Care Industry

OPPT is working with the members of the National Association of County and City Health Officials to improve the ability of local health officials to integrate source reduction into solutions to community health concerns and environmental problems. In FY 1998, OPPT demonstrated the utility of geographic information systems (GIS) by local health departments for use in zoning decisions, land-use planning, pollution prevention, and environmental compliance activities through the development of fact sheets and case studies. In FY 1999, OPPT planned GIS pilots with specific communities and local health departments using TRI and other available environmental and health data. For more information, contact Julie Shannon, (202) 260-2736.

The Agency is also involved in waste reduction efforts in the health care industry. In FY 1998, OPPT, EPA's Region 5 and the American Hospital Association (AHA) signed a memorandum of understanding agreeing to work on the following:

- Virtually eliminate mercury waste generated by hospitals by 2005.
- Reduce overall hospital waste by 33 percent by 2005 and 50 percent by 2010.
- Jointly identify additional substances to target for pollution prevention and waste reduction opportunities.

EPA will provide information to AHA members and other health care professionals on pollution prevention (P2) opportunities. For more information, contact Holly Elwood, (202) 260-4362 or Chen Wen, (202) 260-4109.

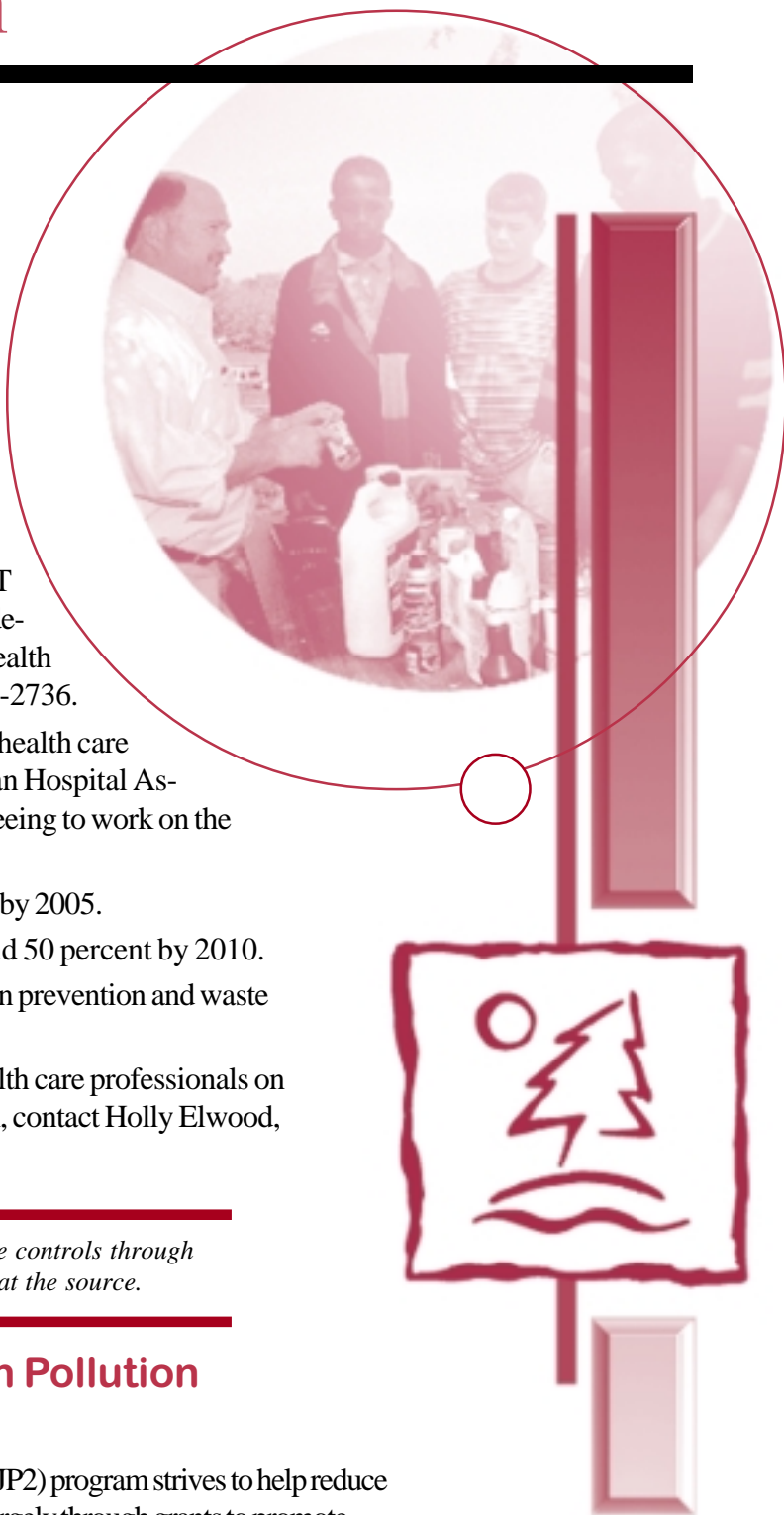
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*OPPT promotes pollution prevention as an alternative to end-of-pipe controls through nonregulatory programs and activities to reduce or eliminate waste at the source.*

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## EPA's Environmental Justice Through Pollution Prevention Program

The EPA Environmental Justice Through Pollution Prevention (EJP2) program strives to help reduce environmental risks in disadvantaged and minority communities largely through grants to promote private and public partnerships. Since the program started in 1995, EJP2 has issued 179 grants worth approximately \$14.2 million. During FY 1998, 44 new grants totaling over \$3.5 million were awarded. FY 1999 funding levels totaled \$750,000 available for awards. OPPT is in the process of evaluating more than 120 applications received for the FY 1999 grant period. Also in FY 1999, OPPT started evaluating programs and developing case study reports to assess the successes and challenges encountered by EJP2 grant recipients since the program's inception. For more information, contact Louise Little, (202) 260-4341.



## In the Regions

An “Environmental Justice Through P2” grant in Region 9 led to a solvent phase-out rule in the Los Angeles (LA) Basin. Rule 1171, passed by the South Coast Air Quality Management District, will result in the conversion of 40 thousand cleaning operations to water-based cleaning and will eliminate the release of 10 tons of volatile organic compounds per day in the LA Basin.

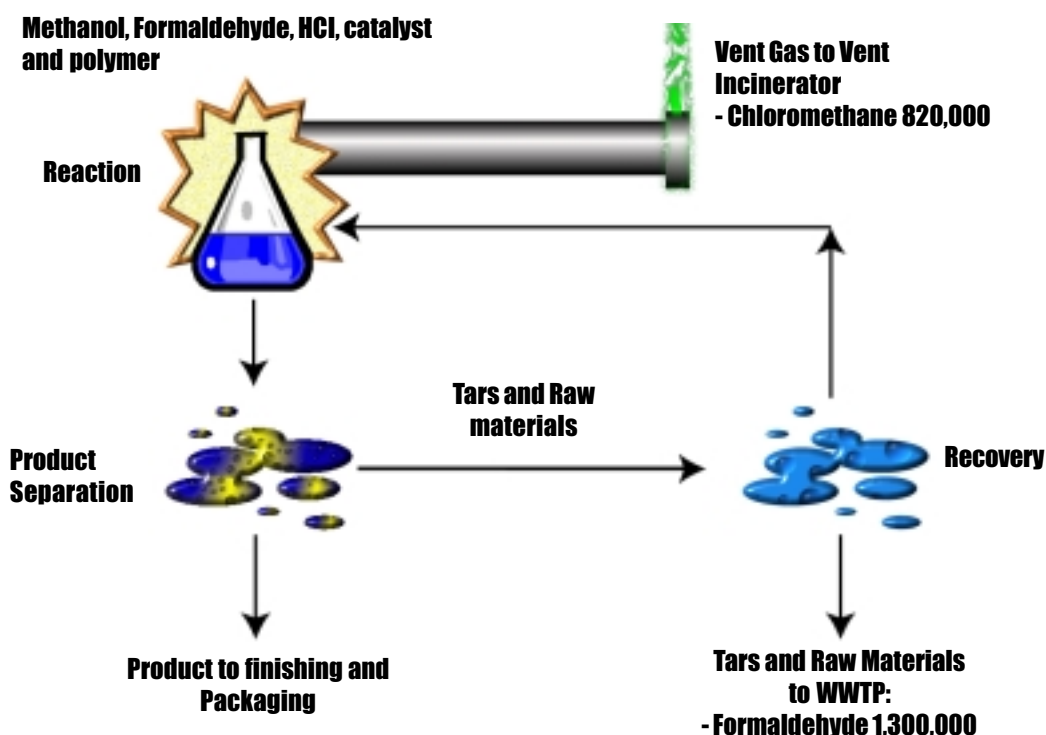
## The Voluntary Initiative for Source Reduction

In an unusual collaboration, the Natural Resources Defense Council (NRDC) and Dow Chemical Company, with funding from OPPT, evaluated several plant processes at Dow’s Midland, Michigan, facility for pollution prevention opportunities. With the expertise of a P2 expert, Dow reduced nearly seven million pounds of wastes and emissions over two years while saving the facility over \$5 million dollars.

The effort resulted in significant savings and reductions as well as important lessons learned for future collaborations:

- Exceeded 35 percent reduction goals by reducing targeted emissions by 43 percent, from one million to 593,000 pounds and targeted wastes by 37 percent, from 17.5 million to 11 million pounds.

### General Flow Diagram: Ion Exchange



Changes to Dow’s Ion Exchange process—a process that produces resins used in water treatment for industrial and residential use—required \$330,000 to make changes to equipment that are expected to save \$3.3 million *per year* in raw materials and waste treatment costs. During the Ion Exchange process, wastes such as Chloromethane and tars are produced. Dow and the project’s P2 expert focused on reducing tar formation and increasing recovery of raw materials.

- Reductions will save Dow approximately \$5.4 million annually and investments made to attain the reductions will pay for themselves in less than one year for an overall rate of return of 180 percent.
- Significant opportunities exist both to reduce wastes and emissions and to save companies considerable money.
- Barriers to the identification and implementation of these opportunities are largely institutional.
- The two most important ingredients for success in projects such as these are innovative engineering focused exclusively on P2 and direct communication of informed activists with manufacturing managers and engineers.
- Institutional change on the part of the manufacturer is far more difficult to achieve and measure than individual reductions at a given plant.

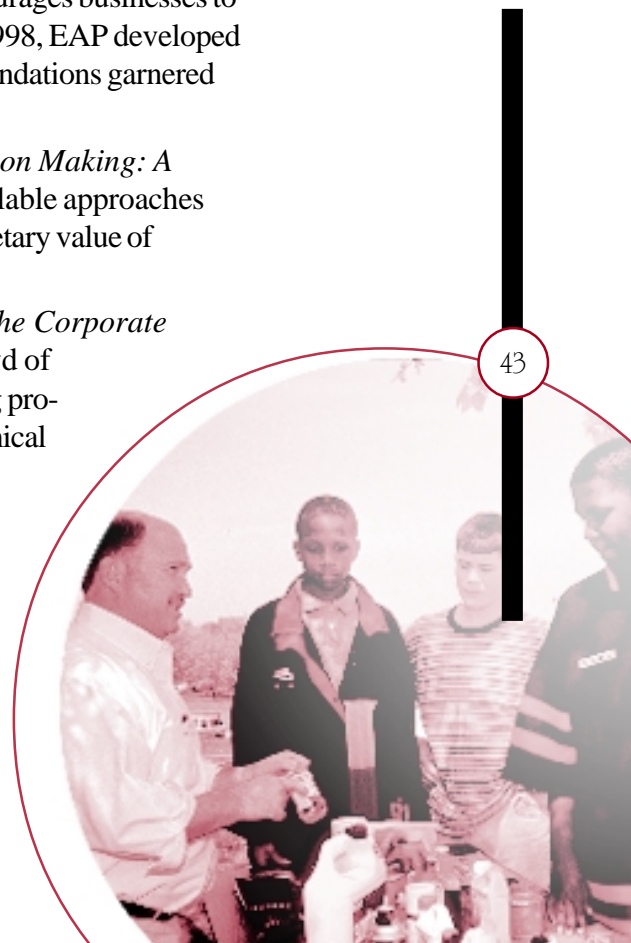
The challenge now is to share the results and lessons of the Midland project and enlist more facilities to achieve further significant reductions and cost-savings through the Voluntary Initiative for Source Reduction (VISR). OPPT is working with NRDC to identify new partners for the effort and is considering various roles for government such as the formation of a team of pollution prevention experts to assist facilities in the identification of prevention opportunities along with an outside steering committee. Such an expert team and committee may be linked to a progressive trade group with multi-stakeholder representation. Regions and State P2 Technical Assistance Programs may aid the program by identifying additional facilities for NRDC pilots, following the NRDC-Dow model or implementing similar reductions, through their already active assistance efforts. For more information, see the website at [www.nrdc.org/nrdcpro/msri/msriinx.html](http://www.nrdc.org/nrdcpro/msri/msriinx.html) or contact Dave Kling, (202) 260-3557 or John Shoaff, (202) 260-1831.

## Environmental Accounting Project

OPPT's Environmental Accounting Project (EAP), launched in 1992, encourages businesses to understand the environmental costs incurred from their processes. In FY 1998, EAP developed the following resources for businesses to address many of the key recommendations garnered through that process:

- *Valuing Potential Environmental Liabilities for Managerial Decision Making: A Review of Available Techniques*, a report that describes publicly available approaches and tools that have been developed specifically for estimating the monetary value of potential, preventable environmental liability costs.
- *Searching for the Profit in Pollution Prevention: Case Studies in the Corporate Evaluation of Environmental Opportunities*, a report by James Boyd of Resources for the Future that presents findings on the decision-making processes surrounding pollution prevention investments at three large chemical manufacturing organizations—Dow, Monsanto, and Dupont.
- An environmental health and safety cost management handbook to guide medium-to-large sized manufacturing organizations in the development of environmental accounting initiatives.

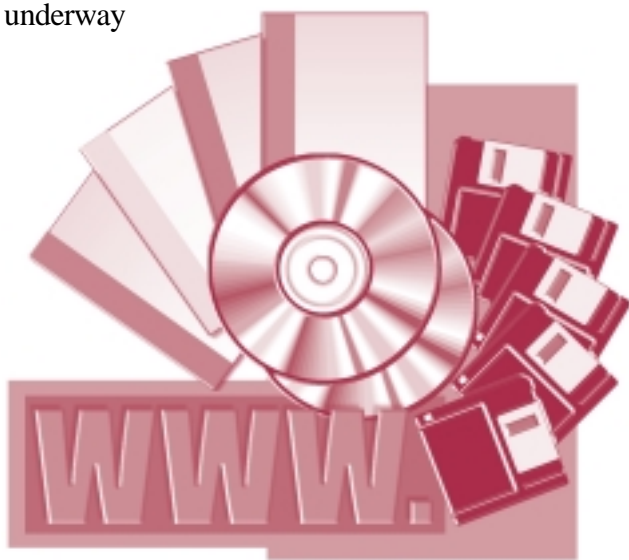
In addition, OPPT established a partnership with Best!Ware and Peachtree Inc., the makers of M.Y.O.B. Accounting and Peachtree Office Accounting respectively, to integrate environmental accounting concepts fully into their software for small and medium-sized businesses. For more information, see the website at [www.epa.gov/opptintr/acctg](http://www.epa.gov/opptintr/acctg) or contact Kris Pierre, (202) 260-3068 or Susan McLaughlin, (202) 260-3844.



## Common Sense Initiative: Computer and Electronics Sector

After a four year effort, EPA concluded the Common Sense Initiative (CSI) in March 1999 and began implementing 26 recommendations made by the participating workgroups for changing many of the Agency's traditional approaches to environmental protection. The effort has won a Vice Presidential Hammer Award. OPPT, in collaboration with EPA Regions 1 and 9, convened a series of meetings with stakeholders in the computer and electronics industries to develop nine recommendations. The following activities are part of the Agency's implementation of those recommendations:

- Two websites have been developed: one, at [www.pwbrc.org](http://www.pwbrc.org), provides resources for companies who need to know what environmental reports to file and the other, at [www.chemicalspill.org](http://www.chemicalspill.org), provides information for communities near facilities who want to know how to protect themselves in case of accidents.
- EPA, Occupational Safety and Health Administration, and National Institute for Occupational Safety and Health held a symposium in June 1999 to find ways to minimize risk shifting between workers and their environment.
- Revisions of a regulation under the Resource Conservation and Recovery Act are currently underway by EPA's Office of Solid Waste and Emergency Response (OSWER) for removing barriers to recovery and recycling of cathode ray tubes (CRTs).
- OPPT formed an electronic products recovery and recycling roundtable to address the growing quantity of computer electronics equipment showing up in waste streams. See the website at [www.epr2@nsc.org](http://www.epr2@nsc.org).



For more information contact, Chris Tirpak, (202) 260-7538 or John Bowser, (202) 260-1771.

## Design for the Environment Program

The Design for the Environment (DfE) Program is a voluntary, partnership-based program that assists businesses with integrating environmental concerns into the traditional parameters of cost and performance. Of DfE's numerous projects ongoing in FY 1998-99, six are highlighted below. For more information, see the DfE Web site at [www.epa.gov/dfe](http://www.epa.gov/dfe) or contact the Pollution Prevention Information Clearinghouse (PPIC) at (202) 260-1023.

### Fabricare Processes

In September of 1998, the DfE Fabricare partnership completed the Cleaner Technologies Substitutes Assessment (CTSA) for Professional Fabricare Processes. This partnership works with the dry-cleaning industry to reduce exposure to perchloroethylene (perc), a solvent used by many cleaners. The CTSA, developed for environmental health and safety personnel, garment care shop owners, and equipment manufacturers, presents information on existing dry-cleaning processes involving perc and hydrocarbons, as well as emerging technologies such as wet



cleaning and liquid carbon dioxide. It also provides industry with specific cost, risk, and performance information, as well as comparative environmental information on existing and new cleaning technologies and substitute solvents. In addition, the project partners developed a summary of the program along with a CTSA fact sheet, and a Frequently Asked Questions document. For more information, contact Cindy Stroup, (202) 260-3889.

## Computer Displays

The DfE Program initiated the DfE Computer Display Project, a voluntary partnership with the display industry in FY 1998. The partnership will use both life-cycle assessment (LCA) and cleaner technologies

substitutes assessment techniques to evaluate the life-cycle environmental impacts, performance, and costs of cathode ray tube (CRT) and flat panel (liquid crystal) display (LCD) technologies used for desktop computers. During FY 1999, the project partners have completed the goal definition and scoping phase of the LCA, and are now engaged in the life-cycle inventory phase. The life-cycle impacts assessment phase of the study will include the impact categories that will be considered—resource consumption, energy use, water use, landfill space use (hazardous and non-hazardous),

global warming, ozone depletion, photochemical smog, acidification, air quality (particulates), water eutrophication, water quality, human health toxicity (occupational and public), ecotoxicity (aquatic and terrestrial), and aesthetics (odor).

The DfE Program will provide the results of the study to original equipment, display, and component manufacturers and encourage them to make environmentally-informed decisions about which technologies, materials, and processes to use in manufacturing their electronic equipment, displays, and components. Another goal of the DfE Computer Display Project is to identify the environmental strengths and challenges of each type of technology, and determine which components, processes, or aspects of the technologies could be redesigned or modified to reduce overall environmental impacts. This project will fill a critical environmental information gap

### Color Monitor Production 1994-2001



With production of flat panel displays expected to exceed CRT display production by the year 2001, it will be critical to understand the environmental impact of this new technology.



before flat panel displays make significant gains in the desktop monitor market currently dominated by CRTs. For more information, contact Kathy Hart, (202) 260-1707 or Dipti Singh, (202) 260-3436.

### Printed Wiring Boards

In FY 1998, DfE Printed Wiring Board (PWB) Project participants completed a final CTSA for the “making holes conductive” step of the PWB manufacturing process. The alternatives examined can replace a current technology that uses formaldehyde and other toxic chemicals, consumes large quantities of water and energy, and generates a significant amount of hazardous waste. Project participants also produced a CTSA summary report, a second report on pollution prevention and control technology in the PWB industry as well as two additional pollution prevention case studies.

In FY 1999, the DfE project partnership team completed a performance demonstration as part of a second CTSA assessment to evaluate several lead-free alternative surface-finishing technologies that can replace the “hot air solder leveling” process. The potential health and environmental risks, performance, costs, and natural resource requirements of the surface-finishing technologies are being evaluated in the CTSA by May 2000. For more information, contact Kathy Hart, (202) 260-1707 or Dipti Singh at (202) 260-3436.

### Industrial and Institutional Laundry Partnership

Each year, laundry product formulators use billions of pounds of chemical ingredients to make detergents that ultimately are released into the environment in laundry waste water. The DfE Industrial and Institutional Laundry Initiative offers partnership with and recognition for companies that improve the environmental profile of laundry products and processes. Innovative and improved laundry formulations contain ingredients with lower toxicity, fewer toxic byproducts, less potential to bioaccumulate, and more rapid biodegradability.

In FY 1998, the DfE Program signed its second partnership agreement with Anderson Chemical Co. of Minnesota. The DfE Program focused much of its FY 1998 activities on the development and distribution of technical support materials. In FY 1999, DfE formed partnerships with two other companies, Noramtech Corporation of Missouri and Norchem Corporation of California. Partnership negotiations are underway with several other companies. In addition, EPA’s *Considerations for Partnership Paper* describes various pollution prevention-type attributes for achieving improved and innovative laundry formulations. For more information, contact David DiFiore, (202) 260-3374, Carol Hetfield, (202) 260-1745, or Mary Cushmac, (202) 260-4443.

### Small Auto Refinish Pilot Project in Philadelphia

Across the United States, there are 65,000 autorefinit shops, employing about 500,000 workers that use many potentially harmful chemicals such as solvents, diisocyanates, and paint additives during spray painting and other related activities. Diisocyanates, which are very toxic at low levels, are produced in high volume with widespread exposure to millions of workers, consumers, and people living in the vicinity of manufacture, processing, and use. OPPT’s DfE Program is working with the auto refinishing industry to identify and adopt safer, cleaner, and more efficient practices and technologies that prevent pollution and reduce exposures to hazardous materials.

During FY 1998-99, DfE completed 12 comprehensive site visits at partner shops, observed shop operations, gathered information on improved equipment and practices, identified best practices, and recommended areas for improvement. For example, some shops have switched from conventional paint spray guns to high-volume, low-pressure guns that can increase paint

transfer efficiency by 25 percent, reduce paint over spray, save material costs, and reduce worker exposure and air emissions to the surrounding community. As part of the DfE project, partner shopowners and autorefinishers meet to exchange information on their successes and difficulties in making improvements and potential solutions.

DfE is coordinating its efforts with EPA's Region 3, the City of Philadelphia, and state programs. DfE is working with the Coordinating Committee for Automotive Repair (C-CAR) small business compliance assistance center to develop a virtual autobody web site to disseminate information materials and link to other relevant websites. DfE is also coordinating with Iowa Waste Reduction Center's STAR program to train painters in more efficient spraying techniques that reduce paint over spray. For more information, see the website at [www.epa.gov/dfe](http://www.epa.gov/dfe) or contact Mary Cushmac, (202) 260-4443, Carol Hetfield, (202) 260-1745, or David DiFiore, (202) 260-3374.

### **Environmental Education Through Community College Partnership**

DfE formed an alliance with the Partnership for Environmental Technology Education (PETE) network to promote DfE approaches and P2 strategies to community, vocational/technical, and tribal colleges nationwide.

In FY 1998-99, the DfE-PETE Alliance sponsored the following activities: 10 regional instructor resource workshops; four P2 in Chemistry workshops; the development of a P2 curriculum module for the lithographic printing process; a revision of the P2 in Automotive Repair curriculum module in coordination with EPA Region 9 staff; and a P2 in Automotive Repair workshop. The DfE-PETE Alliance is also active in the tribal education community through activities such as two tribal college instructor workshops, the development of needs and capabilities profile of the tribal colleges and communities, and a forum on tribal education. For more information, contact Carol Hetfield, (202) 260-1745 or Marla Hendriksson, (202) 260-8301.

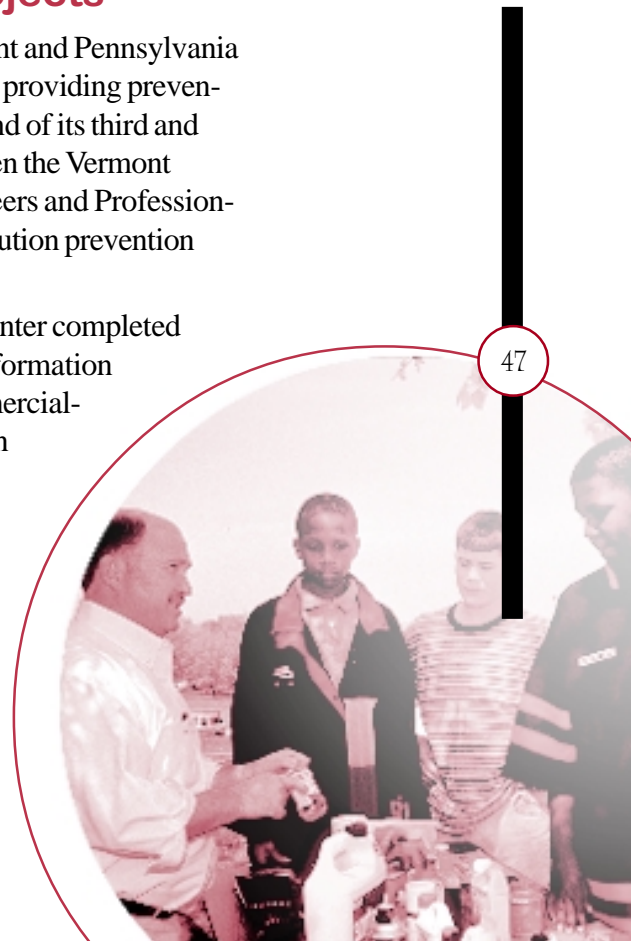
### **Small Business Development Center Pilot Projects**

Over the past three years, OPPT has funded pilot programs with the Vermont and Pennsylvania Small Business Development Centers (SBDCs) to demonstrate the value of providing prevention-oriented environmental assistance to small firms. In FY 1998, at the end of its third and final year, the Vermont pilot effort established a working relationship between the Vermont SBDC, the Vermont Agency for Natural Resources, and the Retired Engineers and Professionals Program through which Vermont businesses are offered free, on-site pollution prevention opportunity assessments.

In FY 1999, OPPT's pilot project with the Pennsylvania Small Business Center completed its third and final year. Project staff responded to 90 requests for general information about a broad range of topics: permitting and regulatory compliance; commercialization of environmentally-sensitive products; energy efficiency; and pollution prevention. For more information, contact Ed Weiler, (202) 260-2996.

### **Business Plan Review Service**

The Business Plan Review Service (BPRS)—one of several support services stimulated by OPPT and managed by the Environmental Capital Network (ECN)—provides environmental technology entrepreneurs a critique of their business plans by individuals who regularly invest in the environmental technology industry.



In FY 1998, the Department of Agriculture contracted with the BPRS to review the business plans of several companies that have obtained equity financing through its venture capital arm, the Alternative Agricultural Research and Commercialization Corporation. The Department of Energy (DOE) intends to include the BPRS with its services that support the commercialization of technologies developed by winners of various DOE technology development grants. Finally, ECN is working with EPA's Office of Research and Development to market the BPRS to recent Phase II winners of EPA's Small Business Innovation Research Program. For additional information, contact Ed Weiler, (202) 260-2996.

## In the Regions

A consent decree with the United Technologies Corporation offered a unique opportunity for Region 1's Assistance and Pollution Prevention Office to evaluate the use of environmental management systems. Region 1 also launched year two of their StarTrack Program for participating companies to conduct compliance and environmental management system audits and to develop public environmental performance reports.

With funding from EPA's Waste, Air, and Pollution Prevention programs, Region 8 has formed the Colorado Ski Industry Project, a partnership with the state of Colorado and Aspen Skiing Company aimed at finding new ways to prevent pollution, reduce greenhouse gases, and save money. Region 5's U.S. Auto P2 Project continues to progress as participating companies reduce their use and release of toxics and other materials of concern. The Auto Project is an example of a partnership where the Agency invests start-up resources and the industry takes ownership of the project.

## Voluntary Standards at EPA

The Voluntary Standards Network, established in 1993 by EPA's Administrator Carol Browner, is the Agency's principal mechanism for coordinating activities related to voluntary standards. With policy guidance from the EPA Standards Executive, the Network oversees the implementation of Section 12(d) of the National Technology Transfer and Advancement Act and OMB Circular A-119, which require federal agencies to use voluntary consensus standards in their rule-writing and procurement activities. In FY 1998-99 the Standards Executive and the Voluntary Standards Network accomplished the following:

- Drafted and coordinated the "EPA Position Statement on Environmental Management Systems and ISO 14001."
- Developed an agencywide implementation plan for Section 12(d) of the National Technology Transfer and Advancement Act and OMB Circular A-119.
- In cooperation with the Office of General Counsel and the rulewriters steering committee, developed a voluntary standards checklist for Agency rulewriters, and began the development of a more comprehensive guide for using and participating in the development of voluntary standards.
- Coordinated Voluntary Standards policy with the Agency's Trade and Environment Steering Committee.
- In cooperation with EPA's Office of Water and Office of Reinvention, provided funding to the Community Nutrition Institute and ECOLOGIA to increase non-governmental organization education, participation, and involvement in the ISO 14000 process and provided grants to the Pacific Institute to conduct an analysis of ISO 14000 at the domestic and international levels from a socio-economic perspective and to Georgia State University to develop a model of companies implementing ISO 14001 in the United States.

For more information, contact Mary McKiel, (202) 260-3584, or Eric Wilkinson, (202) 260-3575.



## Pollution Prevention in EPA Regulatory Programs

Since 1992, OPPT has introduced and promoted cross-media and pollution prevention approaches in selected EPA rulemaking efforts beginning with the Source Reduction Review Project (SRRP).

The Office Directors M2P2 Forum has targeted ten rulemaking projects in the Office of Air and Quality Planning and Standards (OAQPS) for P2 consideration, seven rulemaking projects in the Office of Water (OW), and programmatic activities in the offices of OAQPS, OW, OSWER, Office of Enforcement and Compliance Assurance (OECA), and OPPT.

P2 questions have also been incorporated into the 10-year Maximum Achievable Control Technology (MACT) Surface Coating Categories questionnaire designed for gathering information to develop the MACT emission standards and in the Iron and Steel Effluent Guideline Information Collection Request (ICR). These questionnaires have already been mailed to the industrial facilities for data gathering.

OPPT and the National Pollution Prevention Roundtable (NPPR) are providing opportunities for state program representatives to participate in Agency regulatory workgroups to promote P2. Their involvement so far has helped to identify P2 case studies and key industry contacts especially with small businesses. For more information on P2 in regulations, contact Kathy Davey, (202) 260-2290 or Paul Matthai, (202) 260-3385.

## Measuring the Effects of Pollution Prevention Activities

OPPT initiated a research project in FY 1998 to develop a statistical model to improve the ability to determine the relationship between source reduction practices and changes in TRI releases. This project will use a “weight of evidence” statistical model to assess the effects of source reduction practices on the quantity of wastes generated by facilities reporting to the TRI and to characterize the degree to which such facilities adopt waste management practices from release to source reduction. The results of this project will be available in Fall 1999. Further, as part of the National Environmental Performance Partnership System (NEPPS), many states are entering into agreements with the Agency on core performance measures to evaluate their environmental progress. For more information, contact Kris Pierre, (202) 260-3068.

## In the Regions

In FY 1998, Region 3 sponsored a Waste Minimization/Pollution Prevention Technical Conference for the regulatory community and those involved with pollution management and pollution control. Region 5 presented its P2 Educational Toolbox to educators across the region and nation. Regions 3 and 4 continue to promote the Waste Reduction Resource Center, which provides access to over 2000 full text P2 references downloadable from their library of 12,000 references.

## The Pollution Prevention Assessment Framework

In FY 1998-99, OPPT conducted three national workshops to demonstrate how the P2 Assessment Framework—a compendium of computer-based methods that derive important risk information based on chemical structure—can be used in pollution prevention and product stewardship initiatives. In addition, presentations and model demonstrations have been conducted for industry organizations and other stakeholders.



The models presented in the P2 Framework have been developed over the past 20 years by OPPT to screen new chemicals when there are no data. OPPT, the University of New Hampshire, and Michigan Technological University have started several pilot projects with chemical manufacturers and chemical users in several industry sectors to demonstrate how the P2 Framework can be used to identify problem chemicals, reduce risk, and prevent pollution. Experience to date indicates that the P2 Framework reduces R&D and product development costs, reduces time to market, and reduces waste management. To quantify savings to companies who use the P2 Framework, OPPT and Kodak are conducting an Environmental Cost Accounting Study (see description above). For more information, contact Bill Waugh, (202) 260- 3489 or Maggie Wilson, (202) 260-3902.

## P2 and Local Governments

OPPT works with several different local government organizations including the National Association of Counties (NACo) (see Environmentally Preferable Purchasing), the National Association of County and City Health Officials (NACCHO) (see P2 and Health) and the National Pollution Prevention Roundtable (NPPR) Local Government Workgroup. In FY 1998-99, the NPPR workgroup developed P2 information for several local government operations such as waste water treatment for inclusion in OECA's sector notebook entitled *A Profile of Local Government Operations*. The NPPR workgroup used this document to conduct a series of pollution prevention and compliance assistance training for local governments throughout the country. For more information, contact Julie Shannon, (202) 260-2736.

## In the Regions

Region 1's Houlton Band of Maliseet Indians sponsored several projects to demonstrate best management practices, including pollution prevention, in fields used for livestock in its watershed. Region 7's Community Based Activity includes developing a marketing strategy for community based projects in the region. The strategy contains both pollution prevention and community right-to-know activities.

## NACo Partnership to Promote Environmentally Preferable Procurement

The National Association of Counties (NACo) launched a campaign, under sponsorship of OPPT, to assist counties in locating and selecting cost-effective products and services that emphasize environmental attributes. NACo is campaigning to inform others that many products with environmentally preferable features are available without compromising performance or increasing price. NACo has a starter kit of case studies, model resolutions, program implementation strategies, and a resource list. NACo is also prepared to provide technical information packets on eight product categories commonly procured by local governments, including cleaners, pesticides and herbicides, office supplies, printing, paints, construction and demolition, green buildings, and fleet maintenance and alternative fuel vehicles. For more information, contact Julie Shannon, (202) 260-2736.

## Media Association P2 Forum

In an effort to encompass a broader array of perspectives, the P2 Forum added in FY 1998 representatives from the Association of State Drinking Water Offices and from NACCHO to form the Media Association P2 Forum. This group is the Agency's only forum that brings together the various media associations to examine opportunities for incorporating pollution



EPA's Region 3 demonstrated the "P2" power of plants and flowers at the 1998 Philadelphia Flower Show, the largest annual flower show in the United States. The exhibit included the fringe tree (*Chionanthus virginicus*), the pink-flowering red-bud (*Cercis canadensis*), the yellow-flowering Florida flame azalea (*Rhododendron austrinum*) and the white-flowering coastal azalea (*Rhododendron atlanticum*).

prevention into environmental management practices across media.

In April 1999, OPPT convened a panel of the presidents of the state air, water, and waste program directors' associations as well as the air district directors' group at the National Pollution Prevention Roundtable

Annual Conference. This was the first opportunity to bring these media association directors together to talk about their common interests and willingness to move forward together on multimedia, prevention-oriented

issues. For more information, contact

Lena Hann Ferris, (202) 260-2237.

## In the Regions

The Texas Natural Resources Conservation Commission's Office of Pollution Prevention and Recycling and Region 3's Businesses for the Bay Program were two of three recipients of recent National Pollution Prevention Roundtable (NPPR) MVP2 Awards. Region 7's new headquarters office building was recognized by the Third Annual General Services Administration Environmental Award for Recycling, Acquisition, and Waste Prevention.

## Pollution Prevention Incentives for States Grants

The Pollution Prevention Incentives for States (PPIS) grant program, which fosters the creation of new prevention approaches by states and the development of cross-media state and tribal pollution prevention programs, awarded approximately 59 grants totaling \$5.3 million from EPA's regional offices. These grants fund projects for technical assistance and training, education and outreach, regulatory integration, demonstration projects, legislation activities, and awards and recognition programs. The goal of the PPIS grant program is to assist businesses and industries in identifying better environmental strategies and solutions for complying with federal and state environmental regulations. Grants were awarded this year based in part on how a program furthers the following three national priorities:

- Promote partnering among environmental and business assistance providers.
- Advance state environmental goals.
- Promote the P2 program's accomplishments within the state's environmental programs.





Since the inception of the grant program in 1989, EPA has awarded more than \$53 million grant dollars. During the past ten years, PPIS funds have enabled state programs to implement a wide range of pollution prevention activities including nearly 8,000 pollution prevention assessments, 1,200 workshops, and the development of over 500 pollution prevention case studies. For more information, contact Christopher Kent, (202) 260-3480.

## Environmentally Preferable Purchasing

The U.S. Government is the single largest consumer of goods and services, spending over \$200 billion annually on a wide variety and large quantity of products and services. OPPT's Environmentally Preferable Purchasing (EPP) Program leverages the federal government's purchasing power to include environmental factors into federal government purchasing decisions.

In FY 1998, Executive Order 13101, *Greening the Government through Waste Prevention, Recycling and Federal Acquisition*, was promulgated to strengthen the mandate for executive agencies to purchase environmentally preferable products and services, to require EPA to finalize the 1995 proposed guidance on environmentally preferable purchasing, and to require integration of environmental considerations in all aspects of the federal government purchasing practices. To make it easier for federal agencies to carry out these requirements, the EPP Program dedicated resources in FY 1999 to developing a web-based interactive suite of tools called "Greening Uncle Sam" (GUS). Ranging from a basic training program to a searchable database of environmental standards and contract language, GUS is scheduled to be available on the EPP website in early FY 2000.

Also in FY 1998, EPA and the Office of the Federal Environmental Executive issued a policy letter on how federal agencies can use the technical expertise of non-governmental entities, or "Third Parties," to achieve the Administration's mandate of purchasing environmentally preferable goods and services. Non-governmental entities are standard-setting organizations, third-party certification programs, environmental labeling or environmental "report card" programs, and environmental consulting organizations. The policy emphasizes the importance of pilot projects in testing the utility of non-governmental entities in agencies' environmentally preferable purchasing efforts. For more information about the policy letter, contact Eun-Sook Goidel, (202) 260-3296.

In FY 1999, the EPP program has put the policy for using non-governmental entities in greening federal procurement into action by initiating pilots with voluntary consensus standards organizations to develop environmental standards for certain product categories. As a first step, EPA published a *Federal Register* Notice in January 1999 to help determine the level of interest among non-governmental entities in developing environmental standards for specific product categories. Numerous organizations responded to the *Federal Register* Notice, several indicating their interest and experience in developing environmental standards or in participating in the standards development process. Underwriters Laboratories (UL) and American Society for Testing and Materials (ASTM) are establishing committees to develop consensus-based environmental standards. For more information about the status of the third party pilot projects, contact Julie Shannon, (202) 260-2736.

The EPP program continued work on pilot projects in collaboration with other executive agencies and initiated new pilots to green EPA's own purchasing practices. FY 1998-99 highlights follow and more information on the program can be found at [www.epa.gov/opptintr/epp](http://www.epa.gov/opptintr/epp).



## Pilot Projects

*Copier Paper*—In an effort to “green” EPA’s own purchasing practices, OPPT and EPA’s print shop initiated a pilot project to evaluate additional environmental attributes beyond recycled content of copier paper. The EPP Program worked with the Government Printing Office (GPO) to determine how to fit the additional attributes into the procurement process. When completed, the final contract language will require that bidders’ products meet current GPO performance requirements and contain a minimum 30 percent post-consumer recycled content. Beyond that, bidders will be invited to voluntarily document their progress with regard to a number of additional environmental attributes including percentages of post-consumer recycled content beyond the 30 percent requirement and environment-friendly practices for producing paper. The performance and environmental requirements and attribute preferences will be weighed along with price in a best-value, rather than low-bid, procurement approach. For more information, contact Russell Clark, (202) 260-4418

*Conferencing*—In FY 1999, EPA launched the Green Conference Initiative to develop a web-based tool for conference planners. With this tool, EPA and other agencies of the federal government can begin to take the lead in environmental conferencing and share what they learn with all who sponsor, plan, or hold conferences. Waste prevention, recycling, and environmentally-preferable purchasing are among the many environmental improvement opportunities associated with holding a conference. The tool will have two tracks: the planner track, with guidance to help conference planners identify opportunities throughout the planning and operations of a conference to affect comprehensive environmental improvement and the supplier track, with information useful to the service sectors associated with meetings and conferences (such as hotels, caterers, printers, and transportation services) to assist them in implementing the green opportunities the planners will be seeking. For more information, contact Russell Clark, (202) 260-4418.

*Federal Buildings*—The federal government owns or leases over 500,000 buildings, including 3.1 billion square feet of office space, as well as aircraft hangars, military bases, hospitals, court houses, prisons and tourist destinations. Because construction and maintenance of buildings is such a large part of federal activities, the EPP program has been involved in the following pilot projects that test how environmental preferability can be incorporated into decisions about which building products and services to buy:

*Leading by Example.* To further highlight the role of the federal government in demonstrating “green” buildings practices, EPA published a case study that compares the Agency’s own experiences developing its two largest and newest facilities, the Research Triangle Park, North Carolina Laboratory and Office Complex and the new EPA Headquarters in the Federal Triangle area of Washington, D.C. This case study focuses on the features of these two campuses that contribute to sustainability. For more information on the EPP building and construction pilot projects, please contact Ruth Heikkinen, at (202) 260-1803.

*Renovation of interior office space in the Pentagon.* As a follow-on to the parking lot project, the DOD/EPA pilot project team developed innovative contract specifications to incorporate environmental considerations into product choices in a renovation contract for interior office space. A key element of this pilot project involved training facility managers at the Pentagon in evaluating construction materials such as paints, carpeting, and ceiling tiles for their environ-



mental attributes. Begun in FY 1997, the project will continue throughout the 10-year term of the contract.

*Renovation and repair of the parking lot at the Pentagon* — the largest surface parking lot in the world. This joint DOD/EPA pilot project used contract language to encourage the paving contractor to search out paving products that reduce energy consumption and increase the use of recycled, post-consumer materials. This project started in FY 1996 and will continue at least through the five-year term of the contract.



The Pentagon has 227,934 square feet of parking lots and roadways that were repaved with products that contain positive environmental attributes, without paying more or sacrificing quality:

- 3,328 tons of recycled asphalt;
- 1,031 tons of recycled concrete;
- 300 cubic yards of concrete containing recovered materials;
- 3,558 linear feet of recovered glass for reflective surfaces;
- 5,200 linear feet of rubber made of recovered tires;
- 3,558 linear feet of paint that contains less smog-promoting compounds; and other environmentally preferable products.

Department of Defense Photo

*Private Sector Pioneers: How Companies Are Incorporating Environmentally Preferable Purchasing.* The report highlights the efforts of the following 18 companies to “buy green”: Ben & Jerry’s, Warner Bros., Public Service Electric and Gas, Collins & Aikman, Volvo, Herman Miller, IBM, The Body Shop, McDonald’s Corporation, Perrigo Company, Anheuser-Busch Companies, Inc., Patagonia, Tokyo Gas, Sony, NEC, Dell Engineering, Inc., Canon, and Sun Microsystems. Besides expanding the market of green products, many of the companies in the report are preventing tremendous amounts of pollution and saving millions of dollars as a

result of adding the environment to their purchasing equation. For more information, contact Eun-Sook Goidel, (202) 260-3296.

## Environmental Labeling Program

OPPT is working with the International Organization for Standardization (ISO) to develop voluntary international standards for environmental labeling. International standards are being developed for the following: general principles to consider when making environmental labels and declarations; standards for making self-declared environmental claims; principles and procedures for Type I voluntary environmental labelling programs; and a technical report on principles and procedures for using quantified environmental product information for Type III environmental declarations.

In addition to standards development, environmental labeling policies are being analyzed and research is being conducted worldwide to examine the different types of environmental labeling policies that exist, the effectiveness of the policies and programs, and how those programs harmonize and/or correlate with other U.S. environmental policy programs. The report, *Environmental Labeling Issues, Policies, and Practices Worldwide*, is available from the PPIC and the OPPT website.

OPPT, on behalf of EPA, worked with the U.S. Federal Trade Commission to publish a joint brochure, *Sorting Out Green Advertising Claims*, to help consumers evaluate environmental claims found on products. For more information, contact Julie Winters, (202) 260-4000.

## In the Regions

To celebrate Earth Day 2000, Region 10 is working with the region's Department of Defense office through the Million Solar Roof program to challenge federal facilities to use more solar energy and conserve traditional energy. Region 8, with the National Federal Facilities Enforcement Office, DOE, and the U.S. Air Force, sponsored the "Resource Efficient Federal Buildings Symposium" in April 1998 to encourage participants to reduce energy and water usage, consider renewable energy, and use environmentally preferable products in new construction and renovation. Region 8 is also working with the National Park Service to reduce the toxicity of cleaning and janitorial products used in operations at Yellowstone and Grand Teton National Parks.







# OPPT Information Resources

## Hotlines and Clearinghouses

### TSCA Assistance Information Service (TAIS)

(202) 554-1404

(202) 554-5603 fax

The TSCA Assistance Information Service (TAIS) provides information and technical assistance about programs implemented under TSCA, ASHAA, AHERA, and the Lead-based Paint Exposure Reduction Act. The hotline typically handles questions involving the handling and disposal of PCBs, asbestos in schools and public buildings, registration of new chemicals (e.g., premanufacture notification), import certification, and reporting requirements under TSCA.

### OPPT Library

(202) 260-3944

(202) 260-4659 fax

[www.epa.gov/opptintr/library/libaccess](http://www.epa.gov/opptintr/library/libaccess)

The OPPT Library at EPA Headquarters in Washington DC maintains a collection of books, journals, newspapers, and government documents in support of the TSCA and EPCRA programs. The library's collections include publications in the areas of chemistry, toxicology, and risk assessment.

### National Service Center for Environmental Publications (NSCEP)

(800) 490-9198

[www.epa.gov/ncepihom](http://www.epa.gov/ncepihom)

The National Center for Environmental Publications (NCEP) is the general clearinghouse for most of EPA's publications. At its website, users can search the most recent version of the *EPA National Publications Catalog* by title and EPA number.

### National Lead Information Center

(800) 424-LEAD

[www.nsc.org/ehc/lead](http://www.nsc.org/ehc/lead)

The National Lead Information Center is a hotline and a clearinghouse that handles calls from the general public and professionals and distributes technical documents, pamphlets for the public, and regulations. Its website contains information on Lead Disclosure Rule, some document request forms, and other valuable information such as educational materials, state and local contacts for lead issues, and various other sources of information on lead.

### Pollution Prevention Information Clearinghouse (PPIC)

(202) 260-1023

[www.epa.gov/opptintr/library/ppicdist.htm](http://www.epa.gov/opptintr/library/ppicdist.htm)

EPA's Pollution Prevention Information Clearinghouse (PPIC) distributes documents and information on pollution prevention. A reference and referral telephone service answers questions, takes document orders, or refers callers to appropriate contacts.



### **Pollution Prevention Resource Exchange (P2Rx)** **[www.epa.gov/p2/p2rxfact.htm](http://www.epa.gov/p2/p2rxfact.htm)**

In FY 1997, EPA launched nine regional pollution prevention information centers, the Pollution Prevention Resource Exchange (P2RX) to improve efficiency and effectiveness of pollution information delivery within and among states; to promote infrastructure development among EPA regions; and to encourage cooperation among centers providing information to small businesses. For more information contact the lead center coordinating the national effort, Madeline Sten, (206) 223-1151 at the Pacific Northwest Pollution Prevention Resource Center or Beth Anderson, (202) 260-2602.

### **Toxics and Pesticides Enforcement Division Web Site** **[www.epa.gov/envirosense/oeca/ore/tped/index.html](http://www.epa.gov/envirosense/oeca/ore/tped/index.html)**

This division of EPA's Office of Enforcement and Compliance Assurance (OECA) handles enforcement activities for TSCA, FIFRA, and EPCRA. Users have access to enforcement response policies, enforcement guidance, civil penalty policies and information about Supplemental Environmental Projects (SEPs).

### **OPPT Exposure Assessment Tools and Models** **[www.epa.gov/opptintr/exposure](http://www.epa.gov/opptintr/exposure)**

This website, launched in December 1999, houses several exposure assessment methods, databases, and predictive models developed by OPPT.

### **Chemical Registry System** **[www.epa.gov/crs](http://www.epa.gov/crs)**

The Chemical Registry System (CRS) was developed in response to recommendations by the Chemical Data Standard Working Group, a cross-program body seeking a common and consistent way to identify chemical information in EPA databases. CRS is envisioned to be the way EPA's data customers (including the federal government, states, municipalities, scientists, industry, public interest groups and concerned citizens) search and access all EPA chemical information, documents, and regulations.

### **Chemicals in Consumer Products** **[www.cpsc.gov/cpscpub/pubs/iaq.html](http://www.cpsc.gov/cpscpub/pubs/iaq.html)**

The Consumer Product Safety Commission regulates the use of hazardous substances in products sold to consumers. Information is available at this web site on indoor air emissions and health effects of chemicals that can be found in some products, such as formaldehyde, asbestos, and lead.

### **National Library of Medicine** **[www.nlm.nih.gov](http://www.nlm.nih.gov)**

NLM tracks chemical toxicity information through biomedical articles and journals and allows free access through the Internet to both PubMed and the Internet Grateful Med. Members of NLM can access databases of information such as the chemical Carcinogenesis Research Information System (CCRIS) and the Registry of Toxic Effects of Chemical Substances (RTECS).

## OPPT Information Resources

### The Trouble with Lead

Funded under the State Lead Grant, the State of New York is distributing a 30 minute video, *The Trouble with Lead*, to New York State Public Libraries, County Health Offices, Block-buster video stores, and DIY outlets (Home Depot, Builder's Square) for free use by the public. In addition, a three minute continuous loop video to spark interest in lead-based paint was developed to be distributed to county health departments for exhibits and health and county fairs. For more information, contact Louis Bevilacqua, (732) 321-6671.

### OECD/UNEP Toolbook

The United States, Mexico, Canada, and Germany, in collaboration with the United Nations Environment Programme (UNEP) and the Organization for Economic Cooperation and Development have collected information in a "toolbook" that describes options and alternatives for countries considering initial implementation of a new chemicals notification scheme. The toolbook includes chemical inventories, notification requirements, approaches to assessing notifications, and actions or activities occurring post-notification (including risk management actions, enforcement, and compliance). For more information, contact Becky Cool, (202) 260-8539.

### TRI CD-Rom

The TRI CD-ROM is available free to educators, government agencies, and non-profit organizations by calling the National Service Center for Environmental Publications (NCEPI) at (800) 490-9198 and asking for EPA 749-C-99-003. Businesses can purchase the CD-ROM from the National Technical Information Service (NTIS) by calling (800) 553-6847 and asking for PB99-500-547 or from the U.S. Government Printing Office at (202) 512-1800 item 055-0-0582-6.

### TRI Information Kit

The TRI Information Kit is available from the National Center for Environmental Publications and Information (NCEPI) by calling (800) 490-9198, and asking for EPA-749-K-98-001.

### EPA/National Science Teachers Association TRI Teaching Materials

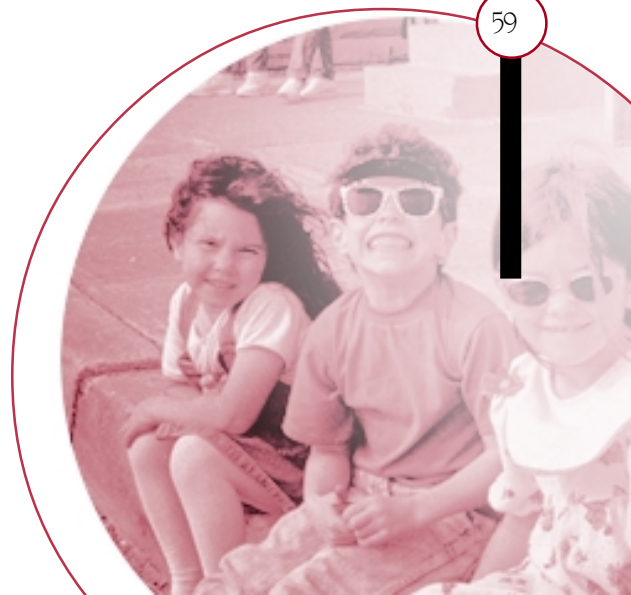
TRI Education Products are available from the National Technical Information Service (NTIS) by calling (800) 553-6847 and asking for PB97-502-587 or by calling the Government Printing Office at (202) 512-1800 and asking for 055-000-0582-6.

## Publications Available in FY 1998-99

*The following publications are available from TAIS, (202) 554-1404.*

### OPPT-wide Publications

**OPPT Annual Report**, EPA /745/R/98/003. This report is a summary of activities and programs of OPPT for Fiscal Year 1997, available from TAIS, (202) 554-1404.



***Chemicals in Our Community.*** In FY1998, OPPT publications *Chemicals in the Environment* and *Chemicals in Progress Bulletin* were merged into a new publication, *Chemicals in Our Community*. Issues can be found at [www.epa.gov/opptintr](http://www.epa.gov/opptintr) or by contacting the TSCA Assistance Information Service at 202-554-1404.

### OPPT Tribal News

[www.epa.gov/opptintr/tribal](http://www.epa.gov/opptintr/tribal)

A quarterly newsletter containing various articles on toxics and pollution prevention and tribal activities mailed to more than 680 Tribes and Tribal organizations. Additionally, a tribal lead outreach brochure is available for use and adaptation by tribes and indigenous peoples.

### Safer Chemicals - Publications

- **“Strawman” Priority Setting Process for Endocrine Disruptor Screening and Testing**, January 1999.
- **Determining the Adequacy of Existing Data in the HPV Program**, February 1999.
- **Development of Chemical Categories in the HPV Challenge Program**, February 1999.
- **The Use of Structural Activity Relationships in the High Production Volume Challenge Program**, September 1999.
- **Guidance on Developing Robust Summaries**, October 1999.
- **Guidance on Searching for Chemical Information and Data**, May 1999.
- **Guidance on Confidentiality Claims Related to Company-Chemical Associations under the HPV Challenge Program**, March 1999.
- **HPV Chemical Human Health Testing: Animal Welfare Issues and Approaches**, February 1999.
- **Guidance for Assessing Adequacy of Existing Data**, February 1999.
- **Guidance for Development of Chemical Categories in the HPV Challenge Program**, 1999.
- **Guidance for Testing Closed System Intermediates for the HPV Challenge Program**, March 1999.
- **Procedures for Removing Chemicals that are No Longer HPV and are not Likely to Become HPV Again from the HPV List**, March 1999.
- **Guidance for “What to Test” for the HPV Challenge**, March 1999.
- **Factsheet on Animal Welfare**, June 1999.
- **Enforcement Response Policy for Sections 8, 12, & 13**, March 1999.
- **Office of Regulatory Enforcement Fact Sheet. Toxic Substances Control Act: Voluntary Audit and Disclosure of 12(b) Export Notifications (VADEN)**, March 1999.



- **TSCA Summary of Regulations**, [Quarterly Update] September 1999.
- **Notice of Transfer Forms for TSCA Section 5 Notices**, July 1999.
- **Introduction to the Chemical Import Requirements of the Toxic Substances Control Act**, June 1999.
- **Fact Sheet: Proposed IUR Amendments**. July 1999.
- **Chemical Right- to - Know: HPV Challenge Program Chemical List**, EPA/745/F/98/002h, September 1998.
- **HPV Challenge Program: List of HPV Chemical Additions**, 1994.
- **Chemical Right-to-Know Fact Sheet Series: Voluntary Participation in the HPV Challenge Program**, EPA/745/F/98/002b, October 1998
- **Chemical Hazard Data Availability Study: What Do We Really Know About the Safety of High Production Volume Chemicals?** , April 1998.
- **Chemical Right-to-Know Fact Sheet Series: Resources**, EPA/745/F/98/002a, October 1998.
- **Chemical Right-to-Know Fact Sheet Series: The Chemical Right-to-Know Initiative Overview**, EPA/F/98/002a, October 1998.
- **Chemical Right-to-Know: Frequently Asked Questions**, EPA/745/F/98/002f, October 1998.
- **Chemical Right-to-Know: High Production Volume Chemicals**.
- **Frequently Asked Questions**, EPA/745/F/09/002g, October 1998.
- **Endocrine Disruptor Screening and Testing Advisory Committee Final Report: Executive Summary**, August 1998.
- **Endocrine Disruptor Screening and Testing Advisory Committee Final Report: Vol. I**, August 1998.
- **Endocrine Disruptor Screening and Testing Advisory Committee Final Report: Vol. I.– Technical Appendices and Public Comments (Appendix F thru U)**, August 1998.

## Reducing Risk - Publications

- **Economic Analysis of the Proposed TSCA Section 402(a)(3) Lead-based Paint Accreditation and Certification Fee Rule**, February 1999.
- **Fee Sheet for Lead-Based Paint Activities**, June 1999.
- **Application for Firms to Conduct Lead-Based Paint Activities**, February 1999.
- **Instructions for Firms Programs Applying for Certification to Conduct Lead-Based Paint Activities**, February 1999.



- **Application for Individuals to Conduct Lead-Based Paint Activities**, February 1999.
- **Instructions for Individuals Applying for Certification to Conduct Lead-Based Paint Activities Accreditation Application for Firms Training Programs**, February 1999.
- **Instructions for Training Programs Applying for Accreditation of Lead-Based Activity Training**, February 1999.
- **Fact Sheet: Proposed Rule on the Management and Disposal of Lead-Based Paint Debris**, December 1998.
- **Fact Sheet: Generators' and Transporters' Responsibilities for Management and Disposal of Lead-Based Paint Debris**, December 1998.
- **Questions & Answers; Proposed Rule on the Management and Disposal of Lead-Based Paint Debris**, December 1998.
- **Section 406(b) Interpretive Guidance, Part II**, October 1999.
- **The Lead-Based Paint Pre-Renovation Education Rule: A Handbook for Contractors, Property Managers, and Maintenance Personnel - Interim Edition**, June 1999.
- **Regulatory Advisor for the Pre-Renovation Education Rule**, June 1999.
- **PCB Questions and Answers Manual, Part 1 and 2**, July 1999.
- **PCB Q&A For Natural Gas Pipelines**, July 1999.
- **PCB Memo Package**. (Note: These are older memos recently added to T.A.I.S. Document Inventory.)

**Durler Letter: Temporary Storage of PCBs and Annual Document Log**, September 1997.

**Hohman Letter: Definition of a Used Oil Marketer Under 761**, March 1998.

**Van Horne Letter: Excluded PCB Manufacturing Processes**, March 1998.

**Petrilli Letter: Importation of PCBs from Excluded Manufacturing Processes vs. Inadvertent Contamination**, April 1998.

**Reed Letter: Use Assumptions for Mineral Oil PCB Transformers**, October 1998.

**Shaw Letter: Use Assumptions for Pole Top and Pad Mount Distribution PCB Transformers**, March 1999.

**Neidig Letter: Clarification of PCB Amendments**, April 1999.

- **Draft Mercury Action Plan**, EPA/742/D/98/002, November 1998.
- **Mercury Action Plan Fact Sheet**, November 1998.

- **A Multimedia Strategy for Priority Persistent, Bioaccumulative, and Toxic Pollutants (DRAFT)**, November 1998.
- **Multimedia Strategy for Priority Persistent, Bioaccumulative, and Toxic (PBT) Pollutants (Executive Summary, DRAFT)**, November 1998.
- **Persistent, Bioaccumulative, and Toxic Pollutants (PBT) Frequently Asked Questions**, November 1998.
- **Review of Studies Addressing Lead Abatement Effectiveness: Updated Edition**, December 1998.
- **Risk Analysis to Support Standards for Lead in Paint, Dust, and Soils: Vol. 1 & 2**, EPA/747/R/97/006, July 8, 1998
- **Summary and Assessment of Published Information on Determination of Lead Exposures and Mitigating Lead Hazards Associated with Dust and Soil in Residential Carpets, Furniture, and Forced Air Ducts**, EPA/747/S/97/001, 79 pages, June 1998.
- **Lead in Your Home**, EPA/747/B/98/002, June 1998.
- **Conversion Equations for Use in Section 403 Rulemaking**, EPA/747/R/96/012, December 1997
- **Draft Multimedia Strategy for Priority Persistent, Bioaccumulative and Toxic (PBT) Pollutants**, EPA/742/D/98/001, November 1998.
- **Draft Mercury Action Plan**, EPA/742/D/98/002, November 1998.
- **Draft Multimedia Strategy for Priority Persistent, Bioaccumulative and Toxic (PBT) Pollutants Fact Sheet**, EPA/742/F/98/020, November 1998.
- **Draft EPA Plan for Mercury Fact Sheet**, EPA/742/F/98/023, November 1998.
- **Asbestos and Your Health**, EPA/910/F/98/002, December 1998.

### Public Understanding - Publications

- **EPCRA Section 313 Industry Guidance for Chemical Distribution Facilities**, EPA/B/99/005, 1999.
- **EPCRA Section 313 Industry Guidance for Coal Mining Facilities**, EPA/B/99/002, 1999.
- **EPCRA Section 313 Industry Guidance for Electricity Generating Facilities**, EPA/B/99/003, 1999.
- **EPCRA Section 313 Industry Guidance for Metal Mining Facilities**, EPA/B/99/001, 1999.
- **EPCRA Section 313 Industry Guidance for Petroleum Terminals and Bulk Storage Facilities**, EPA/B/99/006, 1999.
- **EPCRA Section 313 Industry Guidance for RCRA Subtitle C TSD Facilities and Solvent Recovery Facilities**, EPA/B/99/004, 1999.



- **1996 TRI Data Quality Report**, December 1998.
- **1996 Toxics Release Inventory Public Data Release -- 10 Years of Right to Know: Industry Sector Analyses**, EPA 745/R/98/018, December 1998.
- **1997 Toxics Release Inventory Public Data Release Report**, April 1999.
- **TRI Questions and Answers Document**, EPA 745/B/98/004, Revised Version, December 1998.
- **1997 State Fact Sheets**, March 1999.
- **1997 TRI State Fact Sheets Report**, EPA 745/F/99/001, April 1999.
- **1996 Toxic Release Inventory Public Data Release – 10 Years of Right-to-Know**, EPA/745/R/98/005, May 1998.
- **1996 Toxic Release Inventory Public Data Release–10 Years of Right-to-Know State Fact Sheets**, EPA/745/F/98/001, May 1998.
- **Toxic Release Inventory Reporting Forms and Instructions: Revised 1997 Version**, EPA/745/K/98/001, February 1998.

### **Pollution Prevention - Publications**

- **Background Report on Fertilizer Use, Contaminants and Regulations**, EPA 747/R/98/003, January 1999.
- **DfE EMS Bulletin 1: Using DfE Concepts in Your EMS**, EPA/744/F/98/004, July 1998.
- **Computer Display Industry and Technology Profile**, EPA/744/R-98/005 December 1998.
- **Cleaner Technologies Substitute Assessment (Korean)**, EPA/744/F-98/011K, May 1999.
- **Cleaner Technologies Substitute Assessment (Spanish)** EPA/744/F-98/011S, May 1999.
- **Consumer Labeling Initiative: Phase II Report**, EPA/742/R-99/004, October 1999.
- **Defending the Environment at the Department of Defense**, EPA/742/R-99/002, July 1999.
- **Searching for the Profit in Pollution Prevention: Case Studies in the Corporate Evaluation of Environmental Opportunities**, EPA/742/R/98/005, 1998.
- **Voluntary Partnership with the American Hospital Association to Reduce Hospital Waste (Fact Sheet)**, EPA742/F/99/016, March 1999.
- **Searching for the Profit in Pollution Prevention: Case Studies in the Corporate Evaluation of Environmental Opportunities**, EPA/742/R/98/005, April 1998.
- **Environmentally Preferred Purchasing Quick Reference Fact Sheet**, EPA/742/B/98/003, April 1998.



- **Update #2: Environmentally Preferred Purchasing Program**, EPA/742/F/98/019, September 1998.
- **Update #3: Environmentally Preferred Purchasing Program**, EPA/742/F/98/001, April 1998.
- **Pathway to Product Stewardship: Life Cycle Designs as a Business Decision Support Tools**, EPA/742/K/98/001, April 1998.
- **The City of Santa Monica's Environmental Purchasing: A Case Study**, EPA/742/R/98/002, August 1998.
- **Parking Lot Project Fact Sheet: Paving the Road to Success**, EPA/742/R/98/001, March 1998.
- **Pollution Prevention in Metal Painting and Coating Operations: A Manual for Technical Assistance Providers**, EPA/742/B/98/005, April 1998.
- **Pollution Prevention in the Primary Metals Industry: A Manual for Pollution Prevention Technical Assistance Providers**, EPA/742/B/98/005, April 1998.
- **EPA Standards Network Fact Sheet: ISO 14000: International Environmental Management Standards**, EPA/625/F/97/004, March 1998.
- **Environmental Management System Voluntary Project Evaluation Guidance**, EPA/742/B/98/002, February 1998.





# Web Addresses

## [www.epa.gov/opptintr](http://www.epa.gov/opptintr)

- Office of Pollution Prevention and Toxics Home Page

## [www.epa.gov/opptintr/solvents](http://www.epa.gov/opptintr/solvents)

- Aqueous and Semi-aqueous Solvent Chemicals

## [www.epa.gov/opptintr/asbestos](http://www.epa.gov/opptintr/asbestos)

- Asbestos Program

## [www.epa.gov/opptintr/chemfact](http://www.epa.gov/opptintr/chemfact)

- OPPT Chemical Fact Sheets

## [www.epa.gov/chemrtk](http://www.epa.gov/chemrtk)

- Chemical Right-to-Know Program

- High Production Volume (HPV) Challenge Program

## [www.epa.gov/crs](http://www.epa.gov/crs)

- Chemical Registry System

## [www.epa.gov/opptintr/chemrtk/childhlt.htm](http://www.epa.gov/opptintr/chemrtk/childhlt.htm)

- Children's Health Test Rule

## [www.epa.gov/opptintr/cbep](http://www.epa.gov/opptintr/cbep)

- Community-Based Environmental Protection

## [www.epa.gov/opptintr/chemrtk/hpvchmlt.htm](http://www.epa.gov/opptintr/chemrtk/hpvchmlt.htm)

- HPV Chemical List

## [www.chemicalspill.org](http://www.chemicalspill.org)

- Chemical Spill Information

## [www.epa.gov/opptintr/CORR](http://www.epa.gov/opptintr/CORR)

- Chemicals on Reporting Rules List

## [www.epa.gov/docs/epacfr40/chapt-I.info/subch-R](http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-R)

- 40 CFR Sections 700-799

## [www.epa.gov/opptintr/labeling/](http://www.epa.gov/opptintr/labeling/)

- Consumer Labeling Initiative

## [www.epa.gov/opptintr/dfe](http://www.epa.gov/opptintr/dfe)

- Design for the Environment Program

## [www.epr2@nsc.org](http://www.epr2@nsc.org)

- Electronic Products Recovery

## [www.pwbrc.org](http://www.pwbrc.org)

- Environmental Reporting Requirements

## [www.epa.gov/opptintro/opptendo](http://www.epa.gov/opptintro/opptendo)

- Endocrine Disruptors Screening and Testing Program

## [www.epa.gov/enviro/index\\_java.html](http://www.epa.gov/enviro/index_java.html)

- Envirofacts

## [www.epa.gov/opptintr/acctg](http://www.epa.gov/opptintr/acctg)

- Environmental Accounting Project

## [www.epa.gov/empact](http://www.epa.gov/empact)

- Environmental Monitoring for Public Access and Community Tracking

## [www.epa.gov/opptintr/epp](http://www.epa.gov/opptintr/epp)

- Environmentally Preferable Purchasing

## [www.epa.gov/opptintr/epp/cleaners/select](http://www.epa.gov/opptintr/epp/cleaners/select)

- EPP Pilot Projects-Internet Tools

## [www.epa.gov/opptintr/exposure](http://www.epa.gov/opptintr/exposure)

- Exposure Assessment Tools and Models

## [www.epa.gov/bns](http://www.epa.gov/bns)

- Great Lakes Binational Toxics Strategy

## [www.epa.gov/greenchemistry](http://www.epa.gov/greenchemistry)

- Green Chemistry Program

## [www.epa.gov/opptsfrs/home/guidelin.htm](http://www.epa.gov/opptsfrs/home/guidelin.htm)

- Harmonized Test Guidelines

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- Integrated Risk Information System

## [www.epa.gov/opptintr/itc](http://www.epa.gov/opptintr/itc)

- Interagency Testing Committee

## [www.epa.gov/opptintr/iur98](http://www.epa.gov/opptintr/iur98)

- Inventory Update Rule Amendments

- 1998 IUR Electronic Reporting

## [www.epa.gov/opptintr/lead](http://www.epa.gov/opptintr/lead)

- Lead Programs

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- New Chemicals Program

## [www.epa.gov/opptintr/newchemicals/chemcat](http://www.epa.gov/opptintr/newchemicals/chemcat)

- New Chemicals Program Chemical Categories Report

## [www.epa.gov/opptintr/chem-pmn](http://www.epa.gov/opptintr/chem-pmn)

- New Chemicals Chemistry Assistance Manual for PMN Submitters

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[www.epa.gov/opptintr/newchms/p2.htm](http://www.epa.gov/opptintr/newchms/p2.htm)

- The New Chemicals Pollution Prevention Recognition Program

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- Online Library System (OLS)

[www.epa.gov/pbt](http://www.epa.gov/pbt)

- Persistent, Bioaccumulative and Toxics (PBT) Initiative

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- PCB Regulations

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- Small Business Assistance Program

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- OPPT Tribal Program

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- Master Testing List

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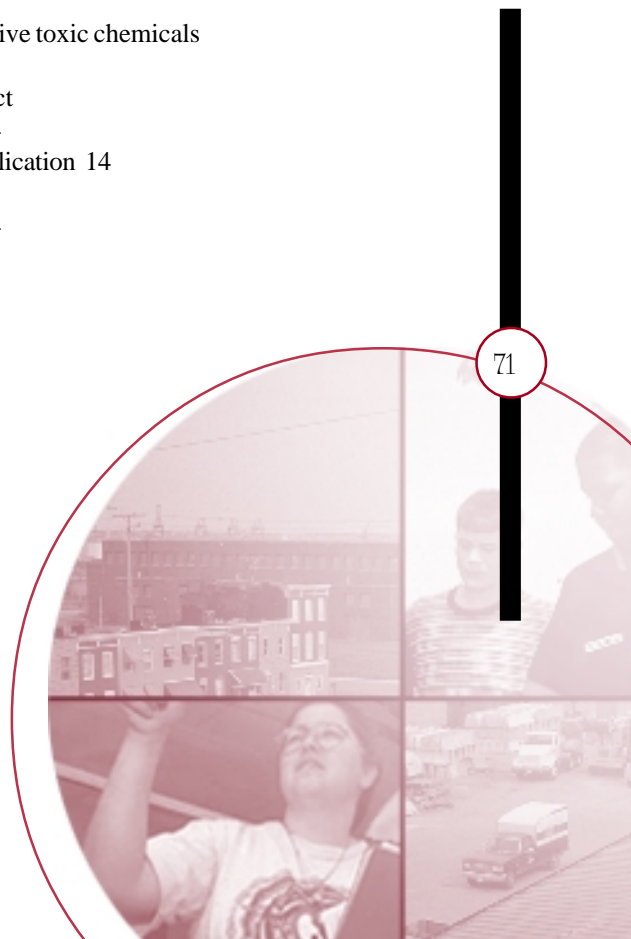
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